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(Sessional Papers (No. 7).)

(A. 1888
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188. ARCHAEOLOGICAL
ANNUAL REPORT

1st - 6th (1886/87 - 1892/93)

OF THE

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CANADIAN INSTITUTE,

SESSION 1886-87,

BEING PART OF APPENDIX

TO THE

REPORT OF THE MINISTER OF EDUCATION, ONTARIO,

1887.

Toronto:

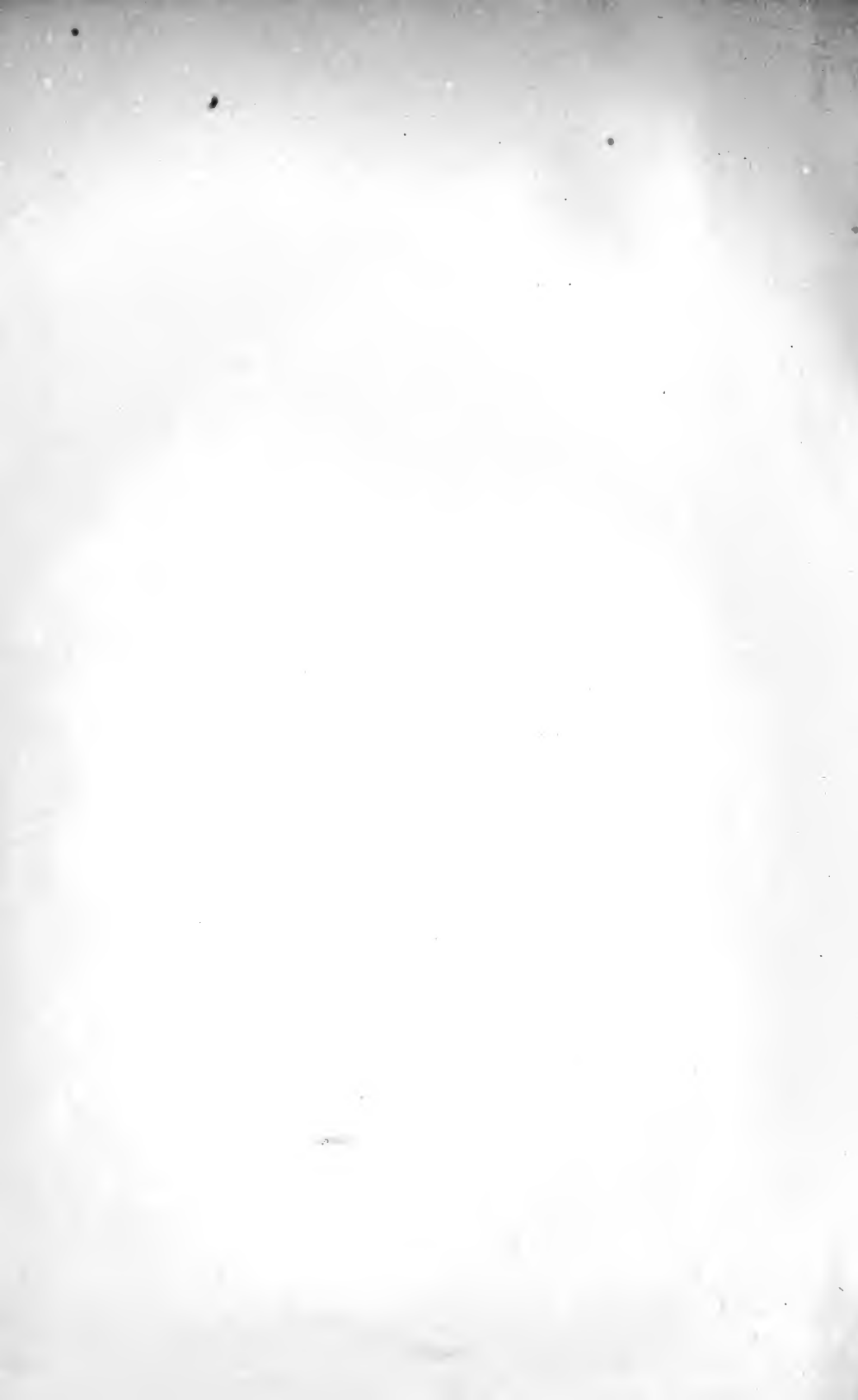
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*ANNUAL REPORT OF THE COUNCIL OF THE CANADIAN INSTITUTE
SESSION 1886-87, BEING PART OF APPENDIX L OF THE REPORT
OF THE MINISTER OF EDUCATION OF 1887. SEE PAGE 235 OF
THAT REPORT.*

The Council of the Canadian Institute has the honor to lay before the members its thirty-eighth Annual Report.

During the past session twenty-six meetings, including the annual conversazione, have been held, at which forty-nine papers have been read, in addition to twenty-three read at section meetings. This number is largely in excess of that of any previous year in the history of the Institute. The character of these communications is fully equal to the standard of previous years, and the range of subjects (as shown in Appendix VI.) is unprecedentedly large. The average attendance at the regular weekly meetings also shows a considerable and steady increase.

The distinguishing feature of the year has been the successful establishment of not less than four new sections, in addition to the Biological section, incorporated at the end of last session, viz.: (1) A Photographic section, (2) an Architectural section, (3) a Philological section and (4) a Geological and Mining section. The creation of these sections has extended the benefits of the Institute to new classes of the citizens, and has been the chief cause of the large increase of membership. Their annual reports, which are appended, show a gratifying spirit of activity in every branch of the Institute.

A further evidence of this increased activity is seen in the number of memorials presented to the Provincial Government, with successful results in many cases, as follows: In February last the Committee of Ways and Means waited on the Minister of Education and urged him to increase the annual grant to the Institute from \$750 to \$1,500, for general purposes, and to enable the Council to give courses of public lectures on scientific subjects, especially in connection with industrial pursuits. While gratefully acknowledging the increase of the grant to \$1,000 for general purposes, the Council regrets that the Government did not see fit to comply with the latter part of the application.

In the same month the Archaeological Committee urged the Minister to make a yearly grant of \$1,500 for Archaeological research in Ontario, and the passing of an Act for the protection of Archaeological remains founded upon Sir John Lubbock's "Ancient Monuments Act of 1812." The Council again thankfully acknowledges the liberal grant of \$1,000 for this purpose, but regrets that the heavy work falling upon the Minister this session in connection with educational matters should have made it impossible for him to bring in an Ancient Monuments bill, which would have greatly enhanced the value of the Act. It is hoped, however, that such an Act may become law in the next session of the Legislature.

In March a deputation waited on the Commissioner of Crown Lands to urge the establishment of a large park reserve in the district of Nipissing, for the protection of wild animals and of timber, and were assured of the Minister's sympathy. An Act for the purpose will, it is hoped, be the result of this application in the near future.

In April a Committee urged upon the same Minister the propriety of some improved means of collecting information on matters connected with the mining interests of the Province, and received assurances of co-operation.

Another pleasing feature of this year's work is the partial completion of the Museum of Natural History and Archaeology in the third story of our building, which will, it is confidently expected, enable the Council, for some time at least, to properly accommodate

collections and donations. In this direction the Council desires to acknowledge the liberality of the Biological section in guaranteeing the interest for two years on the \$1,000 borrowed for this purpose.

The Library has been increased by the addition of 124 volumes of bound exchanges; but further shelf accommodation is urgently needed.

While congratulating the Institute on the increase in membership, in income and in activity, the Council feels that it is necessary to impress upon the members the fact that the current expenses are greatly increased, especially in printing and gas, while there is a falling off in the rentals; and also that, in order properly to fulfil the objects for which it exists, the further extension of the Museum and Library and the completion of the building by the erection of a commodious lecture hall is highly desirable. It therefore urges upon the members the necessity of supporting the present efforts of the Committee of Ways and Means by every means in their power, by contributions, by presenting the claims of the Institute to the public in every possible way, and by endeavoring to obtain new members.

During the past year the Institute has lost by death one of its most distinguished honorary members, the Rev. John McCaul, LL.D., late President of University College, and President of the Institute from 1862 to 1864. The deceased was for nearly half a century one of the leading figures in social and educational affairs in this city, and his articles on Roman Inscriptions in the *Canadian Journal*, which formed the basis of his great work on that subject, had much to do, not only with the establishment of his own claims to be called the first English scholar in Latin epigraphy, but with the high standing attained in those early years by our journal.

(Signed) W. H. VANDER SMISSEN,

President.

ALAN MACDOUGALL,
Secretary.

APPENDIX I.

Membership.

Number of Members April 1st, 1886	233
Withdrawals and deaths during the year	14
	<hr/>
Elected during the year	219
	<hr/>
Total members April 1st, 1887	290

Composed of—

Honorary Members	5
Life Members	13
Ordinary Members	272
	<hr/>
Total	290
	<hr/>
Associates	30

APPENDIX II.

Treasurer in account with the Canadian Institute for the year ending March 31st, 1887.

To Summary—

" Balance on hand	\$ 63 05
" Annual subscriptions	919 00
" Rents	218 00
" Government Grant	750 00
" Proceeds, Wallace Lectures	107 42
" Journals sold	29 29
" Periodicals sold	32 61
" Mr. Sandford Fleming's proportion of printing	62 41
" Interest	2 65
" Natural History Society, balance of funds	8 73
" Subscriptions to bust of Dr. Wilson	25 00
" Proceeds of note discounted	300 00
" Proceeds of Mortgage due 1892	3,000 00
	<hr/>
	\$5,518 16

By Summary—

" Salaries	\$ 373 50
" Printing Journal	338 76
" " Miscellaneous	7 50
" Binding	124 60
" Stationery	32 89
" Postage	201 95
" Freight and express charges	20 91
" Repairs, stoves	4 80
" Gas	43 12
" Water	24 00
" Show cases for specimens	100 00
" Advertising	3 00
" Periodicals, 1886	120 36
" " 1885	60 55
" Discount on cheque	25
" Consul's certificate and Customs' expenses	3 50
" Sweeping chimneys	2 00
" Fuel	109 90
" Painting	104 13
" Interest	194 39
" Mortgage due August, 1886	3,411 00
" Taxes	10 21
" Bust of Dr. Wilson	25 00
" Legal expenses	25 00
" City Directory, 1887	3 00
" Repairs to building	60 47
" Matting for reading-room	26 80

By Summary—(Continued.)

" Housekeeper's expenses	\$ 10 00
" Journals purchased	50
" D. Boyle, disbursements and expenses.....	20 17
" Balance, Imperial Bank.....	\$50 00
" " Cash on hand	6 40
	<hr/> 56 40
	<hr/> \$5,518 16

Examined and found correct.

(Signed) T. B. BROWNING, } Auditors.
D. B. DICK, }

April 22nd, 1887.

Building Account.

1886.		
Dec. 1,	To Donation, Natural History section.....	\$ 50 00
1887.		
Jan. 8,	" Mortgage due 1892.....	1,000 00
	" Interest.....	48
		<hr/> \$1,050 48
1887.		
Feb. 9,	By Law expenses.....	\$ 12 65
	" Carpenters' contract, Certificate No. 1.....	300 00
Mar. 11,	" " " No. 2.....	75 00
	" Balance, Imperial Bank.....	662 83
		<hr/> \$1,050 48

Examined and found correct.

(Signed) T. B. BROWNING, } Auditors.
D. B. DICK, }

22nd April, 1887.

Assets.

Building	\$11.500 00
Warehouse	720 00
Ground.....	3,000 00
Library.....	5,500 00
Specimens	1,300 00
Personal property	600 00
	<hr/> \$22,620 00

Liabilities.

Mortgage, No. 1, due 1892.....	\$ 3,000 00
" " " No. 2, ".....	1,000 00
Note discounted	300 00
Balance in favour of the Institute.....	18,320 00
	<hr/> \$22,620 00

APPENDIX III.

Donations and Exchanges.—Books and pamphlets received from April 1st, 1886, to April 1st, 1887 :—From Canada, 190 ; United States, 398 ; Great Britain and Ireland, 310 ; India and Australia, 82 ; all other countries, 1,250 ; total, 2,230.

Total number received in 1882-3, 280 ; ditto 1883-4, 800 ; ditto, 1884-5, 730 ; ditto 1885-6, 1,502 ; ditto 1886-7, 2,230.

APPENDIX IV.

The number of Societies and Publications with which the Institute exchanges is 341.

APPENDIX V.

To the Periodicals subscribed for last year, the following have been added :—*English Historical Review*, *Scottish Review*, *Hardwickes Science*, *Gossip*, *Science*. There have been discontinued :—*British Quarterly Review*, *Brain*, *Times* (Weekly), *English Medicine*, *American Journal of the Medical Sciences*.

APPENDIX VI.

Classification of Papers read by subjects : General, 3 ; Psychology, 1 ; Archæology, 5 ; Sociology, 2 ; Mathematics, 2 ; Chemistry, 5 ; Mineralogy and Geology, 7 ; Jurisprudence, 1 ; Philology, 8 ; Meteorology, 1 ; Geographical Science, 2 ; Electricity, 1 ; Biology, 5 ; Astronomy, 2 ; Medicine, 2 ; Photography, 1 ; Industrial Science, 1.

Read at Section meetings as follows :—Biological section, 12 ; Architectural section, 8 ; Philological section, 3 ; total, 72.

REPORTS OF SECTIONS OF THE CANADIAN INSTITUTE, 1886-7.

(1) *Report of the Biological Section from June, 1886, to April, 1887.*

During this period eighteen meetings of the Section have been held, with an average attendance of $18\frac{3}{4}$ (say 19) members.

The Section has 36 ordinary members and 12 associates.

Twelve papers have been read at the meetings, and nine short communications received.

Two of the meetings were set apart for microscopical exhibition and discussion, under the able conduct and superintendence of Professor R. Ramsay Wright.

In June, a branch of the Audubon Society was organized in connection with this Section, and Mr. Hollingworth was appointed local secretary. There are now 106 members in the Toronto branch.

In October, a special vote of thanks was passed to W. H. Doel, J. P., (one of our members) for his earnest efforts, made during the summer, for the protection of insectivorous birds, by fining all violators of the law that were brought before him.

During the same month an offer of the Section to provide the interest for two years on a loan of \$1,000, led the Council of the Institute to decide on at once fitting up the attic of the building as a museum, instead of leasing it to the Art School. Since the completion of the new rooms the members of the Section have assisted in moving the objects and cases from the various places in which they lay to the top of the building.

Signed.

J. B. WILLIAMS,
Secretary of the Biological Section.

(2) *Report of the Architectural Section.*

In compliance with the constitution of the Canadian Institute, I submit a summary of the work of the Architectural Section.

This Section, consisting of five regular and nineteen associate members of the Canadian Institute, has held eleven meetings since its formation, of which the following is a list :—January 10th, 1887.—Discussion on what style of Architecture is best adapted to this country. January 17th, 1887.—Discussion on the use and abuse of the Romanesque style of Architecture. January 24th, 1887.—Paper on Foundations, by Henry Steele. January 31st, 1887.—Lecture on Wood Floors, by S. G. Curry. February 7th, 1887.—Paper on Style, by J. C. Horwood. February 14th, 1887.—Lecture on Columns, by Alan Macdougall. February 28th, 1887.—Paper on Hints to Young Architects, by Henry Langley. March 7th, 1887.—Lecture on Arches, by W. L. Symons. March 14th, 1887.—Paper on the Doric Temple in its Religious and Artistic aspects, by J. W. Gray. March 21st, 1887.—Receiving the Judges' report on, and discussing the competitive drawings. March 28, 1887.—Paper on Masonry, by A. F. Wickson.

Signed.

TORONTO, March 30th, 1887.

J. P. HYNES,
Secretary.

(3) *Report of the Photographic Section.*

Report of the working of the Photographic Section of the Institute during the past three months.

The first meeting of the Section for the purpose of organization, election of officers, etc., took place on the evening of February 23rd, 1887, when the following were elected :—Chairman, Mr. H. Neilson ; Vice-Chairman, Mr. R. Ewing ; Secretary-Treasurer, Mr. A. Gaunt ; Executive Committee, Mr. E. R. Parkhurst, Mr. C. F. Wagner, Mr. W. W. Fox, Mr. W. A. Forbes, Mr. F. D. Manchee.

The number of members now on the rolls is 28 ; associates, 5 ; total, 33.

Meetings for the transaction of business, etc., have taken place on the first Tuesday in each month, but so far no papers have been read.

The first exhibition of the Section took place in the Library of the Institute on April 12th, and 13th, and was very successful, considering the short time given for the preparation of pictures.

Signed.

TORONTO, May 4th, 1887.

ARTHUR GAUNT,
Secretary.

(4) Report of the Philological Section.

1. The first meeting of the Section was held on March 15th, 1887, when the following officers were elected :—

Chairman, Rev. J. F. McCurdy, Ph.D. ; Vice Chairman, D. R. Keys, B.A. ; Secretary, Geo. E. Shaw, B.A. ; Committee, J. Squair, B.A., M. L. Rouse, J. Cunningham Dunlop, M.A., J. H. Cameron, B.A., W. H. Vander Smitten, M.A., W. H. Huston, M.A.

2. The first two meetings were held on Saturday afternoon (March 5th and 12th), at 16 o'clock, all the subsequent ones on alternate Mondays, beginning March 28th, 1887.

3. The Section has 18 members.

4. The following papers have been read before the Section :—(1) "How we Speak," by A. Hamilton, M.D. (2) "The Science of Language in Popular Education," by Rev. J. F. McCurdy, Ph.D. (3) "Umbrian Inscriptions," by Rev. Neil McNish, D.D., LL.D. All which is respectfully submitted.

Signed.

GEORGE E. SHAW,
Secretary.

(5) Report of the Geological and Mining Section.

I have the honor to report that, proceeding under authority conferred by the Canadian Institute, a meeting of members was held on the 20th April, ult., when a Geological and Mining Section was duly organized; and that at an adjourned meeting on 30th April regulations and by-laws were adopted, which have since been approved by the Council of the Institute; and that the following officers have been elected for the incoming year :—

W. Hamilton Merritt, Chairman ; Alexander McNabb, Vice Chairman ; Archibald Blue, Secretary ; George T. B. Ives, Assistant Curator ; Messrs. Boyle, Dobson, Notman, Phipps, and Dr. Bryce, Executive Committee.

The first regular monthly meeting of the Section was held on Thursday evening, 5th inst., at which the Chairman gave his inaugural address.

The Section is composed of 15 members.

Signed.

A. BLUE,
Secretary.

TORONTO, May 7th, 1887.



ARCHÆOLOGICAL REPORT.

To the President and Council of the Canadian Institute :—

GENTLEMEN,—I have much pleasure in presenting you with the following report of work done in the Archæological field during the past season—work which it would have been impossible to perform but for the aid rendered to the Institute by the Provincial Legislature at its last session.

As this is the first report of the kind prepared under the auspices of our society, we are warranted in hoping that its appearance will tend to arouse a more general interest in the subject. The brief, illustrated descriptions that follow, of a few typical specimens in our cases, may induce farmers and others to preserve for safe keeping in the Provincial Archæological Museum, which we have established, many such scientifically valuable objects as have, too often, hitherto been lightly esteemed, or neglected and lost.

I have the honor to be,
Yours respectfully,

DAVID BOYLE,

Curator.

TORONTO, Dec. 20th, 1887.

As soon as the season was well enough advanced to make digging possible, April 30, I visited lot 2, con. 1, township of York, within sight of Toronto. As many interesting relics had been picked up in this neighborhood, it seemed a promising place in which to begin operations.

On the rear of this lot, which is part of the Jackes' estate, is a mound, evidently of artificial formation, although the only indications that remain are disturbed soil and considerable quantities of charcoal and ashes. The situation is high and dry, and the trees close to the mound are comparatively young.

The discovery of two or three fragments of what appeared to be corn-cobs suggested the probability of this earth-heap having been employed by the Indians as a *cache* or deposit for maize.

The whole of the surrounding country abounds in traces of various aboriginal manufactures—flint chips, broken pottery and bone implements—and the Museum of the Institute contains many fine specimens from the same neighborhood, presented by Mr. B. Jackes, of Toronto, Mr. J. Long, of Lansing, and Miss Marshall, teacher of the school section in which the property is situated.

On the 11th of May, I proceeded to Tidd's Island, in the River St. Lawrence, opposite Gananoque, for the purpose of opening a mound on the property of Messrs. Louis Bedard and Lawrence O'Neil, these gentlemen having kindly granted permission to the Institute not only to excavate, but to appropriate anything that might be found.

The island itself lies within a mile of Gananoque, is about half a mile in length, and from one-eighth to one-fourth of a mile wide. Its longer axis corresponds with the course of the river, and the mound in question is near the eastern extremity, but on the south side.

With the assistance of Mr. Bedard and two French-Canadian laborers, a trench was dug from the margin to the centre of the elevation, but with the exception of a few flint-

flakes and some charcoal near the surface, everything went to show that the mound was one of natural formation, the strata of fine and coarse sand reposing on each other undisturbedly.

A little to the north and east of this elevation was another, on the north side of which I observed a promising depression. On examination this mound proved to contain human remains in a very fragmentary condition. The only other relics were a rudely formed pipe-stem of clay and a piece of brown stone, irregularly quadrangular in form, and showing that it had been used for rubbing or polishing purposes. One corner of this stone was coated with oxide of iron, giving rise to a fear that traces of European presence would come to light; but this, I am glad to say, was dispelled by the turning out of a small piece of hematite, which had probably been used as a pigment, and which, no doubt, was accountable for the rust upon the stone.

Openings made in other parts of the mound yielded nothing further.

The most westerly portion of Tidd's Island is owned by Mr. C. A. See, and has been laid out by him as a summer resort, known as Tremont Park. Almost midway between the northern and southern shores and about three hundred feet from the western point, was a circular mound forty feet in diameter, and from four to five feet in height at the crown. Mr. See broke into the mound for the purpose of obtaining building material, and thus accidentally came upon human remains and flint implements.

From Mr. See's account there would seem to have been from twelve to fifteen skeletons within the mound, and these were arranged as if radiating from the centre, with the heads outward and not far from the circumference. Placed over the bones, and especially about the head, were several large, flat stones, near to which were found the implements of flint.

From my own observation it was evident that the bodies had simply been deposited upon the ground, and earth from around the place collected to cover them to the depth already mentioned, and this mode of sepulture was in all probability due to the extreme difficulty of digging beyond the vegetable mould, as the sub-soil at the depth of only a few inches consists of a very compact and tenacious clay.

In the centre of the mound a large quantity of ashes was found, and at the distance of three or four feet south-east was a simple structure about a yard in length, consisting of flat stones set on edge in two rows and covered with other stones, as Mr. See said, "like a drain."

With kind permission from the proprietor, I had a somewhat careful examination made of such portions of this mound as had not been disturbed, and I succeeded in procuring several enormous flint implements similar to those already found by Mr. See. I was also abundantly rewarded by finding a number of native-copper beads—in one instance they were still adherent to the hide or skin they had been employed to ornament.

Mr. See having presented the largest and best pieces of his "find" to the Institute, our cases now contain (including those found by myself) from this mound ten spear-like implements, mostly of great size—some of them upwards of 9 in. long and half as wide; one awl-like tool, two conical pendants (slate), two other perforated stones, a number of copper beads, and a copper axe.

A brief visit to Hay Island, half a mile south-west of Tidd's, enabled me to procure from Mr. De Witta, the proprietor, a fair specimen of celt, and a promise to preserve for the Institute all further "finds."

There is little reason to doubt that these islands lie in what was a well-travelled route across our great river by the ferocious members of that remarkable confederation in connection with whom, indeed, for long time the St. Lawrence was known as The River of the Iroquois. The valley of the Gananoque leads into the very heart of a country remarkable for the number of its lakes—a country the superior of which it would be difficult to imagine for hunting and fishing purposes, and one that was undoubtedly visited annually at least, by the warriors of the Six Nations.

Thanks are due to Messrs. W. T. K. Smellie, B.A., Head Master of Gananoque High School, Paterson, his assistant, L. Bedard, L. O'Neil and C. A. See, for the

many courtesies extended by them to the representative of the Institute, and more especially to the last named gentleman for his donation of specimens.

On the 20th May, accompanied by Mr. Jas. Bain, Jr., City Librarian-in-Chief, and A. Cox, A.R.C.A., I visited the Township of Beverly, in response to an invitation from Mr. Wallace McDonald, Clerk of the Township. The object of this visit was to examine the site of an old palisaded fort, or encampment, on the farm of Mr. Wm. Gilbert, lot 26, con. 8.

Mr. McDonald remembers distinctly being able to trace a circular series of post holes in the field when cleared, upwards of 40 years ago. Not only were they apparent on account of the decayed wood they contained, but they became disagreeably noticeable on account of the frequent stumblings they caused to ploughing teams.

Mr. McDonald had preceded us to the ground and planted flags as nearly as possible to correspond with the outline of the enclosure. The accuracy of Mr. McDonald's memory was proven by the fact that after having had a portion of the marked ground ploughed from side to side, and the loose earth carefully removed with spades, we found unmistakable evidences of the old palisades. Only a few decayed fragments of wood were found, but sufficient to prove that the posts were pine; and the discoloration of the earth caused by the subsidence of the vegetable mould into the old cavities in the lighter colored sub-soil, indicated that the stakes had been from four to six inches in diameter, and about the same distance apart. The enclosed space was almost circular, being 180 yards in diameter from east to west, and 140 yards from north to south.

As we were assured by Mr. McDonald that not fewer than 300 iron tomahawks had been ploughed up in the same field, the probability is that the enclosure was of early French origin.

The enclosure was on a plateau about 12 feet above the level of a small stream a short distance to the west, and nearly forty yards from a pool on the east, the situation and surroundings of which are so peculiar as to suggest human design in the arrangement of the embankments, although our excavations, made to the depth of fully six feet, failed to afford any proof to that effect.

Your representatives were deeply indebted to Mr. Jos. A. Smith, Public School Inspector of Wentworth County, for the valuable assistance rendered to them in various ways during their visit—to Mr. McDonald, for his active sympathy and intelligent co-operation—to Mrs. Gilbert and the Messrs. Gilbert, proprietors of the farm, and to Miss Robertson, teacher, for the extension of many courtesies.

The 9th and 10th of June I spent in the Township of Humberstone, a few miles east of Port Colborne, where, from information furnished me by Miss Emma Crosson, teacher, I was led to understand that an ossuary had been discovered a short time previously. The same young lady also presented the Institute with three well-preserved skulls from the burial place in question.

I was fortunate enough to become acquainted with Mr. Cyrenius Bearsse, of Sherkston, himself an enthusiastic amateur in Archaeology, and he kindly accompanied me to the spot in question, within a short distance of the Lake Erie shore.

The ossuary was found to occupy a position almost in the centre of a piece of low lying ground, about ten acres in extent, and nearly surrounded by a ridge of sand hills from 20 to 30 feet high.

Owing to the promiscuous way in which the bones lay, it was well nigh impossible to estimate how many skeletons had been deposited, but the number was probably not far from fifty. Notwithstanding the Indian mode of burial, many of the skulls seem to be those of whites, but until proper measurements have been made nothing on this point can be stated with certainty.

I was informed that a fine stone pipe had been taken from near the margin of the pit, and was in the possession of Mr. Carroll, of Buffalo, whose men are here engaged in shipping sand to that city.

The low situation of this ossuary, in the immediate neighborhood of such heights as the aborigines usually selected for places of permanent sepulture would, of itself, suffice to raise doubts as to the work having been of purely Indian origin. I am of opinion

that much may yet be learned from an examination of the surrounding sand hills, and hope, next season, with the permission of Mr. Carroll, to spend a few days in exploring them somewhat thoroughly.

Heaps of flint flakes occur frequently along the lake shore, and highly finished stone implements of various kinds are often found on farms in the vicinity. From Mr. C. Bearsse I procured a vessel of clay (Fig. 7), an exceedingly fine stone gouge, and a number of other articles. From Mr. Wilson, a neighbor of his, and nearer the lake shore, I received a peculiarly formed spade-like specimen, the use of which it is not easy to divine.—(Fig. 40)

The Institute is indebted to Mr. Bearsse for much valuable assistance on this occasion.

Within easy distance of Toronto is the Village of Lambton Mills, on the River Humber. This locality has long been noted as one rich in Indian relics. An old trail to Lake Simcoe and the Georgian Bay followed the valley of this river for a good many miles, and here and there throughout its course are found indications of the old encampments and potteries.

A little south of Lambton Mills, on the Baby Estate, there must have been at one time a considerable Indian population of as stationary a character as it was possible for the nature and habits of the aborigines to permit.

On the summit of a club-shaped plateau, having an area of about ten acres, and being fully one hundred feet above the bed of the Humber, a number of native burial pits have been opened at various times, and much valuable material taken from them. It is quite certain that when this portion of the farm is freed from underbrush further interesting discoveries will be made.

On the flats to the south of this elevation, and facing the Baby residence, Mr. Raymond Baby pointed out a camping ground, or village site, as indicated by remains still turned up by the plough, and I am quite sure that inspection of the corresponding flats to the north would reveal even more numerous proofs of old time habitation.

As somewhat akin to our subject, it may be stated that the Messrs. Baby have in their possession a deed of gift of land in and about Detroit, made to their grandfather by the Pottawatamie Indians in the year 1780 and attested by "A. S. De Peyster, Major, King's Regiment," the officer then commanding the British troops in the town; but to us the most interesting fact connected with this document is that it bears the totem signatures of the several chiefs who represented the tribes concerned.

Mr. and Mrs. R. Baby did everything possible to further the views of the Institute, and expressed their intention to give our Society due notice of any local archaeological developments.

Mr. Jas. Bain, Treasurer of the Institute, accompanied me on June 29th to the Township of Nottawasaga. Here we spent four days in visiting and examining various village sites and ossuaries that want of time had prevented being done on a previous occasion—last year.

Apart from historic knowledge there is abundant evidence that this was at one time a populous Indian section. On many of the principal elevations are found the old pit-graves or ossuaries so characteristic of our Indian sepulture, and the higher lands contiguous to the streams afford ample proof of former encampments and village sites.

The people (of the Tobacco Nation) who occupied this portion of the country appear to have devoted themselves in a large measure to manufacturing clay pots, pipes, bone implements and beads for trading purposes with other tribes less ingenious, or more nomadic, who would willingly exchange the result of the chase for coveted articles of utility or ornament.

We were particularly fortunate in finding on the north half of lot 13, concession 7, the property of Mr. Robert Lougheed, a number of exceedingly valuable specimens of shell and of red stone on which some work has been expended preparatory to the making of beads. These pieces are of especial value as indicating to us the laborious methods adopted to produce symmetrical forms from rough and obdurate material. Further reference will be made to this subject in the sequel.

Excavations made in a few ossuaries did not yield many relics, as in nearly every case openings had been made previously by the settlers, either out of mere curiosity or for the purpose of securing the copper or brass kettles that are so frequently found in graves of post-French date.

On the farm of Mr. Ed. Beecroft, lot 19, concession 8, an ossuary was opened a number of years ago, in which it was estimated that not fewer than 1,000 bodies had been deposited.

From Mrs. Beecroft we obtained an exceedingly peculiar object formed of catlinite (see fig. 27). The arrangement of the holes suggests its use as a pipe, but I am unable to convince myself that this oddly formed piece of workmanship did not serve some other purpose. It was taken from the ossuary already mentioned on the property about forty years, and had been in possession of Mrs. Beecroft the whole of that time. Iron tomahawks bearing the French stamp are plentiful in the township.

From Mrs. Adam, of Creemore, and from Mr. Rt. Lougheed, Mr. John Hannah and Mr. Jas. Connor, of Glen Huron, we received a number of good specimens. Special thanks are also due to Masters Herbert and Theophilus Connor, sons of the last-named gentleman, for a donation of one stone pipe and three clay ones, all bearing good imitations of human faces.

The Institute was formerly indebted to Mr. Lougheed for a great many relics that had been collected by himself and sons on the farm for a number of years.

Wm. Smith, Esq., and Mrs. Smith, of Smithdale, were particularly obliging to the representatives of the Institute, and did all in their power to make our visit both pleasant and profitable.

In July I paid a brief visit to the Tuscarora Reserve in the County of Brant.

On application to Col. J. T. Gilkison, Indian Superintendent and Commissioner, that gentleman kindly permitted Chief Smith (De-ka-nen-ra-neh), his assistant, to accompany us to the reserve, and to act as interpreter. Mr. Thos. Whitehead, a public school teacher from Sheffield, England, formed one of our party.

Having driven to the farm of Chief Bucke (Ska-na-wa-tih), about twelve miles southwest of the City of Brantford, the presence of the assistant superintendent secured for us a hearty welcome from the aged "Fire-Keeper" and two of his companions, all of whom were pagans and members of the Mohawk tribe.

Ska-na-wa-tih, as "Fire-Keeper" of the tribe, has entrusted to his care the wampum belts which fell to the share of the Mohawks when they abandoned their ancient hunting grounds in New York and separated from the other tribes that formed the remarkable confederacy so well known in the history of our continent as "The Six Nations," to settle on the banks of the Grand River, under the protection of the old flag.

On the announcement of our object by Chief Smith, Ska-na-wa-tih immediately consented to display his archives and give us their explanation.

Amid a clump of fruit-trees, not far from his log-house, the old chief having spread a white sheet on the ground, we seated ourselves on the grass and listened eagerly to his recital, as interpreted by Mr. Smith, of the various compacts and treaties formed between different Indian tribes, and between Whites and Indians, as recorded by the arrangement of the beads or wampum woven into belts.

Full particulars relating to these extremely interesting "documents" may be learned by reference to Hale's "Iroquois Book of Rites," where the reader will gather much more information than he could from the Indians themselves.

Nothing could exceed the courtesy of assistant superintendent, Chief Smith, who exerted himself to the utmost to forward the aims of the Institute.

Early in October I examined what, from its surroundings and the regularity of its form, was supposed by the people in the neighborhood to be a mound, on a farm near the village of Troy, in the township of Beverly.

The first view of the situation was enough to throw extreme doubt upon the probability of the earth-heap in question being a genuine "mound," and closer examination enabled me to conclude that not Archaeology but Geology must answer the question: How came this elevation here?

Owing to a rain, that lasted during the greater part of my stay in this locality, little could be done in the way of digging. Without any doubt, this township is well worthy of a thorough examination, notwithstanding the immense quantities of material that have already been taken from it to the cases of the most celebrated museums in Europe and America.

Our collection is even now under deep obligations to Messrs. McDonald, Dwyer, Rae, McKnight, McQueen and others for specimens presented on frequent occasions since the Institute undertook the work of investigation in this direction.

Should opportunity serve next season, I think it would be well to make an exhaustive survey of the whole township and of some adjacent townships, as that section of country is extremely interesting from an historical as well as from an archæological point of view.

Before leaving the township on this occasion I was enabled to procure from Mr. W. Humphrey a remarkably fine copper chisel. It was found on Mr. Humphrey's farm, lot 6, con. 2, and is one of the finest specimens in our somewhat meagre collection of copper implements.

Mr. E. Clement rendered valuable service by way of furnishing information and affording facilities to reach some out-of-the-way places.

Towards the end of the same month I took the opportunity of visiting Komoka from the neighborhood of which we last year received about seventy flint weapons found on the farm of Mr. Arthur Seabrook. Here, as in many other places, the bluffs along the river banks afford many evidences of aboriginal life. In the townships of Delaware and Caradoc large numbers of Indian relics have been found. As in Beverly and some other localities, there is here plenty of encouragement to make a detailed examination of the whole ground.

At Strathroy I had the pleasure of examining the collection of Mr. Jos. W. Stewart. This gentleman has been an enthusiastic collector for several years, and his occupation having afforded him opportunities to travel over much of the Province, he was enabled (with the exercise of judgment and good taste) to form a cabinet of nearly six hundred specimens, nearly all of which are among the best of their kind procurable.

On representing to Mr. Stewart the claims of the Canadian Institute to be made the repository of so many fine specimens, he ultimately consented to part with them, and they now form a valuable addition to our museum. Further reference will be made to some of these relics in what follows.

The thanks of the Institute are due to Mr. Joseph S. Carson, Public School Inspector of West Middlesex, for the assistance he rendered to your representative on the occasion of this visit.

Although where there is so much to be done, I have accomplished less than I could wish, still a good beginning has been made and a great deal of valuable information has been gleaned for future use.

By means of exploration, donation and purchase, upwards of eight hundred specimens have been added to our collection during the year.

Of course, but for the small appropriation made by the Provincial Legislature last session, it would have been absolutely impossible to do even the little that has been done; and it must be gratifying to know that at least a beginning has been made by way of providing the future student of history, ethnology and archæology with a store of material and facts relating to our own province that will be available for reference in the chief centre of our educational institutions.

It is extremely desirable that there should be prepared a map of the province, showing the state of our knowledge with regard to aboriginal settlements, battle-grounds, favored places for the making of pottery, flint and other stone implements, bone needles, awls and hooks, stone and shell beads, (wampum) etc.

This map should also show all the principal trails and portages connecting our northern and southern waters, and as many of the minor routes as possible. In a large number of localities nearly every trace of these has been obliterated in the process of

settlement, but there are still living, pioneers who have a distinct enough recollection of the old paths. In other instances, the trails remain clearly traceable, and a record of them should be made at once.

It is also desirable that as full a list as possible should be made of all Indian topographical names, with their significations. In too many instances these have been displaced either by local vulgarities or by European anomalies.

These original Indian names would, as a matter of course, find a place on the map referred to.

In connection with the circular issued by the Institute at the beginning of the year, it may be stated that a large amount of important information has been procured from various parts of the country in response to the request for donations, as well as in reply to the following queries:—

1. Is there any mound, tumulus, or intrenchment in your neighborhood?
2. Are there any elevations which, from their regularity or for any other reason, suggest an artificial origin?
3. What are the dimensions and area of these from actual measurement? If possible, give a plan with sections.
4. What are the physical features of the situation and vicinity?
5. Are there any evidences of the place having been surrounded with posts or pickets?
6. Are there still, or were there before "clearing," trees of large size within the area of the work? If so, state kind and size, also number of annual growth-rings on largest stump.
7. Are stone or bone weapons of any kind, or fragments of pottery ploughed up in the neighborhood?
8. Have any copper implements of native manufacture been discovered? What?
9. Have any iron or copper articles been found indicating intercourse with Europeans? What?
10. Are there any local names of Indian origin in your township or neighborhood? If so, kindly make a list of them, indicating their correct pronunciation, stating their meaning, and the local or traditional circumstances from which they originate.
11. Names of Township and County, and numbers of lot and concession in which any mound ossuary, intrenchment, old village site, or battle-ground exists.
12. Name of any local collector of Indian relics, or of any persons who are interested in Canadian Archæology.

As a rule, farmers and others having in their possession single or several specimens, willingly present them for the purpose of being placed in a public collection, but, as might naturally be expected, amateur collectors are very loath to part with their "treasures."

The publicity which has been given to the project of the Institute, owing to the distribution of its circulars, and the friendly notices that have appeared in many newspapers, will, to a very considerable extent, prevent mercenary transactions in Indian relics for disposal beyond the province, and there is good reason to believe that many of the private collections just referred to will ultimately, by presentation or purchase, form a part of the Provincial Museum.

It is hoped that the following brief references to a few of the typical specimens in our cases will not only aid in arousing more general interest in the subject, but may enable many of our young people either to collect for themselves more intelligently, or simply to preserve from utter loss such objects as have hitherto not been deemed to possess any scientific value.

Although it is a little more than three hundred and fifty years since Canada became known to Europeans, and considerably less than that since the greater portion of this province afforded homes to pioneer settlers from the Old World, our knowledge of aboriginal life-history here, is, in many respects, surprisingly deficient.

From living descendants of the old race nothing satisfactory can be gleaned. The traditions they possess, and which are mainly fabulous as a matter of course, contain little or nothing that affords any clue either as to the manner in which their ornaments, utensils and implements were produced, or the uses to which many of these articles were put. Neither do we gather as much as is desirable on these points from the writings of those who had good opportunities to examine and describe during the early periods of European settlement.

With regard, therefore, to objects that compose almost every archaeological collection worthy of the name, it may be said of many that, whether as to the processes by which they were fashioned, or as to their ultimate applications in savage economy, we are almost totally ignorant.

Aboriginal relics may be conveniently classified thus :—

1st. Those of which we know the mode of production and their uses, *e. g.*, arrow heads.

2nd. Those of which we know the mode of production, but are uncertain as to the use, *e. g.*, so-called breast-plates, and banner stones.

3rd. Those of which we know the use, but not the mode of production, *e. g.*, certain kinds of finely drilled beads.

4th. Those of which we know absolutely nothing.

European aboriginal relics are classified as palæolithic or neolithic, according to their degree of finish, the latter being of more recent origin and of superior workmanship. In this country, however, no such distinction can be made, for we find the rude and the more elaborate forms in various degrees of finish, in such circumstances as to indicate that all were made and used by the same people contemporaneously.

Many of the more elaborately formed and highly finished were, no doubt, for ceremonial, or, as we would say, for holiday use, the material and construction precluding any belief that economic utility was a consideration with the makers.

Again, many of the weapons we agree to call by specific names were, in all probability, applied to a variety of uses. Just as the dexterous backwoodsman finds in his trusty jack-knife a chisel, a spoke-shave, a scraper, a bit or gimlet, and even a saw, the Indian had in his spear or arrow-head that which would serve a variety of purposes. With the same weapon that slew his prey, he could skin the animal and cut it up. For excising a scalp, cutting thongs, severing a twig, smoothing handles or boring holes, his flint weapon would answer admirably.

A weapon found in considerable abundance is known as a "skinning knife." No doubt the article in question may have been employed in the manner indicated by this name, but it is quite certain that the main purpose of such instruments was warlike. They were chiefly used as tomahawks, or battle-axes, having been attached to handles by means of sinews or thongs. They are invariably made decreasing slightly in size from the edge to the head, so that when bound to a handle every blow administered would tend to tighten their hold. Occasionally these are found of exquisite finish, being perfectly symmetrical and highly polished.

It seems to be very evident that certain persons in each tribe devoted their time in great measure to the manufacture of implements which they no doubt gladly exchanged with others possessing less mechanical ability for the results of the chase, but we have no means of ascertaining the comparative values placed upon the various articles.

To the women, in all likelihood, was allotted the making of earthen vessels, fragments of which are of such frequent occurrence here and there all over the Province, and it must be acknowledged that they evinced considerable taste in modelling and ornamenting their pottery. Unlike the process of building in a coil, as employed by some of the more

southern tribes, the natives of this country appear to have shaped their vessels from the clay in lump form, tempering the material either with powdered shells or with stones of granitic formation, calcined and finely pounded. Wherever the latter material has been employed particles of mica are distinguishable on the surface. In outline and ornamentation many of the vessels in question prove very clearly that the ancient red-man had an eye for the beautiful. Unfortunately, whole specimens of pottery are seldom found unless in the form of pipes, but the fragments frequently enable us to arrive at a pretty correct idea of the size, outline and appearance of the Indian potter's handiwork.

It is probable that the men fashioned their own pipes in material of whatever kind, and one cannot help admiring the taste that is often displayed, as well as the fertility of resource in the adaptation of animal and other forms to the intended purpose.

Presumably, also, most of the other objects requiring peculiar mechanical skill were produced by the male members of the tribe, although there is little doubt that many operations, such as the preparing of skins, the weaving of mats and baskets, and the making of moccasins and other articles of clothing, devolved mainly on the women. As dyers, too, the women were expert in the production of brilliant colours from the many vegetable juices found in the virgin forest.

In material, shape or design there is little or nothing to distinguish the work of one tribe or nation from that of another, except in the case of nations that are separated by long distances. The widely flared or trumpet-mouthed pipe-head would seem to have been a favourite Huron form, but it is by no means confined to the territory that was occupied by that people. In all the chief characteristics of aboriginal life, judging from relics now brought to light, there would appear to have been scarcely any difference among the tribes that inhabited this portion of Canada.

The principal materials employed by the Indians in the production of utensils, tools, weapons and ornaments were clay, shells, flint, quartzite, slate, steatite, blood-stone or catlinite, bone, horn and (rarely) copper.

Not only are all the implements and utensils similarly fashioned and from the same kinds of material, but we find that wherever it was possible the crown of some bluff near a stream was selected as camping ground, and in like manner the highest ground was preferred for purposes of interment.

It frequently happens that the number and arrangement of ash-heaps in a field enable us to form a fair estimate not only as to the number of "lodges" that composed a village, but as to the number of "fires" or families in each lodge.

In a field on the farm of Mr. Robert Lougheed, near Glen Huron station, in the Township of Nottawasaga, the extent of a village is thus plainly discernible and indicates the former existence on the site of about fifty lodges, each affording shelter to from three to seven families. An examination of this field by Mr. Lougheed's family, and by members of the Institute, was the means of adding upwards of one hundred excellent specimens to our cabinets.

In a few places there seem to have been attempts made at fortification by means of earthworks and palisades, but it is difficult to determine how far these means of defence may or may not be due to European influence, as in almost every instance where evidences of such structures exist, there are found iron tomahawks, brass kettles, glass beads and other indications of the white man's presence.

Yours respectfully,

DAVID BOYLE.

POTTERY.

From clay, tempered with powdered shells or granite, were formed vessels for cooking purposes or for holding water. These are seldom found entire, but from the fragments that are picked up, it is evident that utensils of this kind were sometimes upwards of a foot in diameter and about as deep. Some appear to have been moulded and baked within rudely woven basket-work—others show no sign of having been formed in this way, but are, on the contrary, graceful in form and tastefully ornamented with patterns usually made up of straight lines and dots.

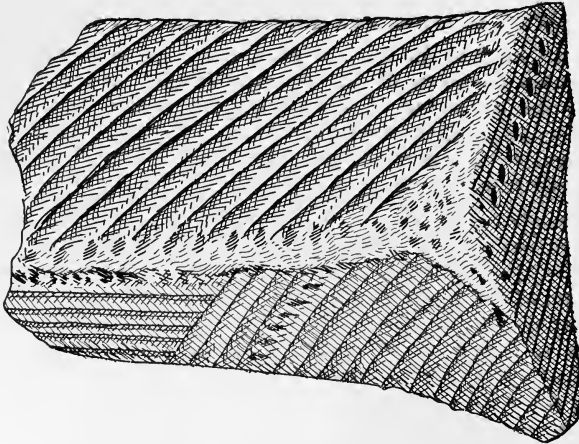


FIG. 1. (Full Size.)

Fig. 1 shows plain lining, but is remarkable as forming almost right angles on the side and edge.



FIG. 2. (Full Size.)

Fig. 2 shows a peculiarly symmetrical arrangement of elliptical depressions within a triangular panel. This arrangement of markings is very peculiar, but, unfortunately, the cut does not show it at all clearly.

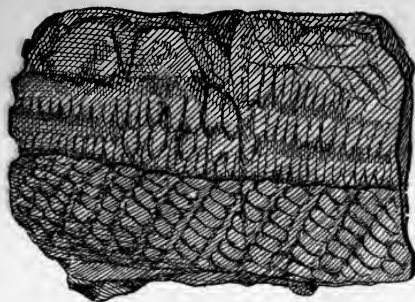


FIG. 3. (Full Size.)

Figs. 3 and 4 exhibit what may be regarded as common styles of marking, but, in Figs. 5 and 6 there is a very noticeable variation. The holes shown at the top of Fig. 5 do not penetrate the pottery. They have been made with a blunt-pointed instrument

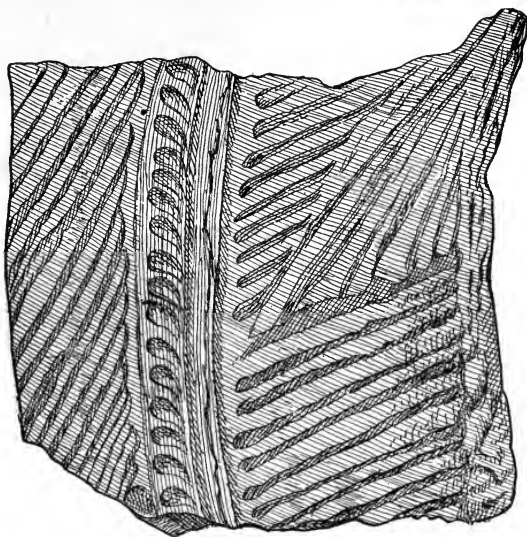


FIG. 4. (Full Size.)

from the inside in such a manner as to form corresponding bosses, or swellings, on the outside, as at Fig. 6. Both pieces are fragments of the same vessel, and were presented by Mr. George Laidlaw, of "The Fort," having been found by him near Ba'sam Lake.

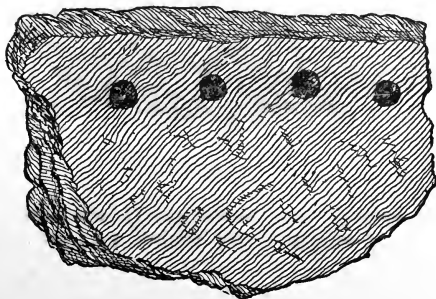


FIG. 5. (Full Size.)

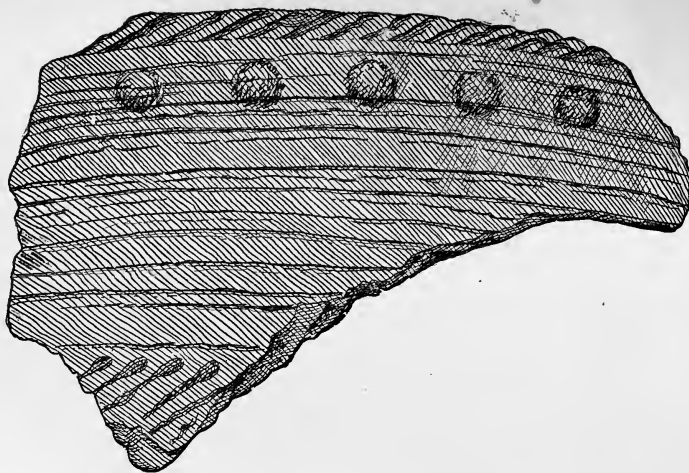


FIG. 6. (Full Size.)

In every instance the clay vessels are round bottomed, and this seems the more singular in the case of those that are formed, as is supposed, without the aid of any enclosing wicker.

FIG. 7. ($\frac{1}{4}$ Size.)*

Fig. 7 is an almost perfect, but somewhat rudely-formed clay pot, from the Erie shore east of Port Colborne, where it was found, projecting from a sandbank, by Mr. Cyrenius Bearsse.

* " $\frac{1}{4}$ size" means that the cut is only half as long and half as wide as the object. "1-16" one-fourth as long and one-fourth as wide.



FIG. 8. (Full Size.)

Fig. 8, though less in size, is more elegantly formed, and shows more taste in its ornamentation. It was found in an ossuary on the farm of Mr. James Dwyer, Beverly—a former habitat of the Neuters. From the same place we have been able at various times, by the generosity of the proprietor, to add many fine specimens to our collection.

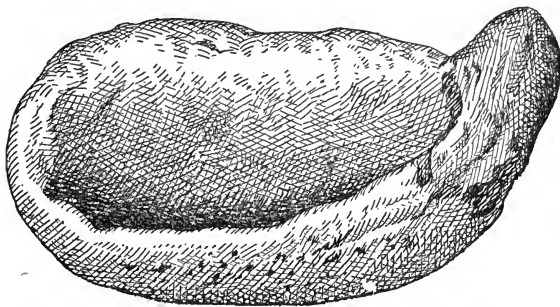


FIG. 9. (Full Size.)

Fig. 9 is a coarsely formed specimen of the potters art from Beverly. It may have been used as a spoon, but more probably was a child's plaything. Pipes and other articles are sometimes found of such diminutive size as to preclude the belief that they were made for any other purpose than that of toys. In a few cases, perhaps, they were used as articles of adornment, and this seems the more likely when we find them perforated as if for suspension.

Our collection is very weak in this department, and particular attention should be devoted to the securing of good, perfect specimens of the potter's handiwork.

Of clay pipes we have been successful in procuring a fair variety, but many of them are the property of the York Pioneers, and are merely in the temporary keeping of the Institute.

CLAY PIPES.

On this class of workmanship the Indian has employed his best talents as a mechanic and an artist. As mentioned elsewhere, the flared, flanged or trumpet-mouthed form was in considerable repute, but the adaptations of design to human and lower animal forms are frequently very ingenious and sometimes amusing.

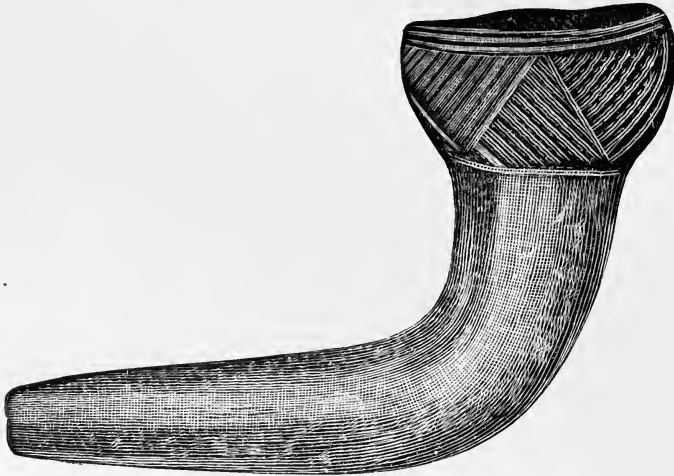


FIG. 10. (Full Size.)

Fig. 10 may be taken as a typical illustration of what, from the frequency of its appearance in the neighborhood of the Georgian Bay, is sometimes spoken of as "The Huron Pipe," although many of them have a sharper and longer outward curve, giving the mouth a broad, flattened look.

The specimen figured is from the farm of Mr. James Rae, Beverly township, a considerable distance from the ground occupied by the Hurons.



FIG. 11. (Full Size.)

In Fig. 11 we have the flared mouth modified in such a manner as to give the outside a quadrangular form. The lower part of the bowl is relieved by means of

four ribs, that give it the appearance of a square, whose angles correspond with the sides that form the mouth. This is a very unusual combination of design. Our collection contains a few other specimens. Both are from the Loughheed farm, township of Nottawasaga. Some pipes of this shape have been found at Lake Medad, near Waterdown.

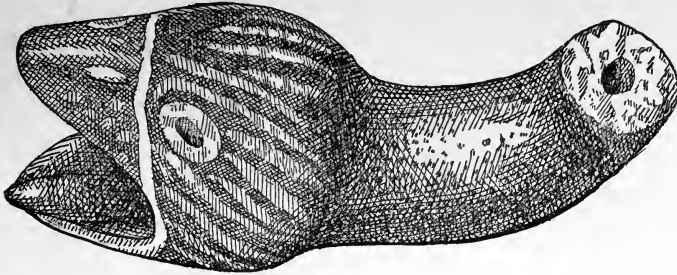


FIG. 12. (Full Size.)

From the same ground we have Fig. 12, of very graceful design; the open mouth of the snake forming the bowl of the pipe. Unfortunately, the stem is broken, but it was probably not more than an inch or two longer when complete.

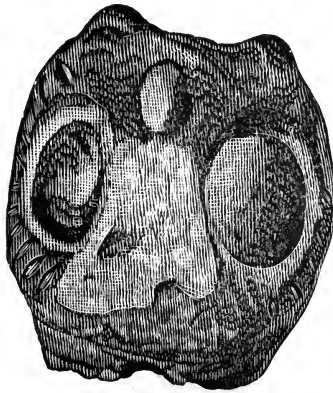


FIG. 13. (Full Size.)

In Fig. 13 it has been the evident intention of the aboriginal artificer to produce the semblance of an owl. The stem is lost, and the beak has been destroyed, but enough remains to prove that the old pipe-maker who fashioned this bowl was an excellent mechanic. Not only is the general conception of the head very good, but the high finish is remarkable. Locality, Loughheed farm, Nottawasaga.

The heads of other animals were also used as models for imitation in pipe-making, and our collection contains many forms, but the human face seems to have been a prime favorite everywhere.

When the head of such an animal as the wolf, for example, is imitated in connection with pipe-bowls, it is usually as an appendage to the inside edge, or edge next the month of the smoker when the pipe is in use. The neck rises from this edge, and the head faces stemwards.

As a rule, the human face was made to form the front side of the bowl, as in the case of our own similarly ornamental pipes.

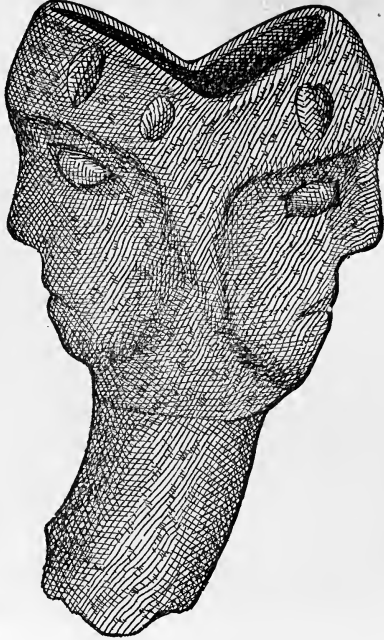


FIG. 14. (Full size.)

In Fig. 14 we have a very rare combination—a face looking each way. This pipe was part of Mr. Stewart's collection. It is of close texture, well baked and of superior finish.

Many of the clay pipes appear to have been fractured in the process of burning, and, consequently, have never been used. Fig. 14 is perfectly free from discoloration.

Besides forming pipes from clay in a plastic condition, there is evidence that another method was employed. The clay was burned occasionally in a solid lump, bearing the general form of the finished article, and the holes for bowl and stem were bored subsequently. Specimens of this kind are of more frequent occurrence near the extreme west of the province than elsewhere, and in a few private collections are the burned, but unbored and crudely shaped blocks.

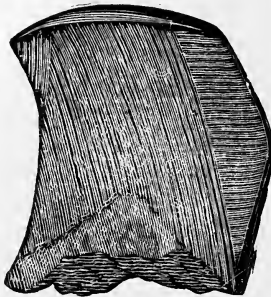


FIG. 15. (Full Size.)

Fig. 15 is a fragment of a pipe remarkable for the delicacy of its lining and the thinness of the piece. In texture and finish it is the best in our collection. Locality, Loughed farm, Nottawasaga.

STONE PIPES.

It might be difficult to state authoritatively whether in the development of Indian mechanical ingenuity, the clay or the stone pipe had precedence. For many reasons it would seem that stone had the superior claim to this distinction, notwithstanding the enormous amount of labor that was necessary to fashion them with such primitive appliances as the aborigines had at command. Contrary to what might be supposed in working such material, the outline was completed before the boring was begun.

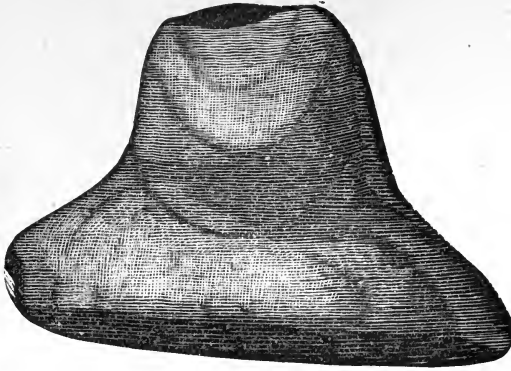


FIG. 16. (Full Size.)

Fig. 16 is an exceedingly ancient form. The material is very hard, and only part of the boring has been done. Both in bowl and stem the holes, each about half an inch deep, are conical at the base. From Mr. Stewart's collection. Locality, Brantford.

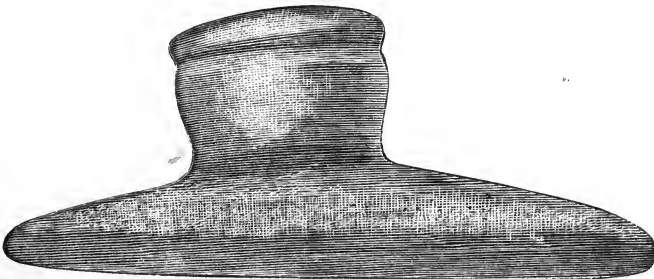


FIG. 17. (Full Size.)

Of the same type, but much more gracefully formed, is Fig. 17. The bowl is perfectly round and relieved by a neatly cut groove near the top, so as to form a bead round the lip. The stem and shorter opposite projection are rounded on the upper side. Both here and in Fig. 16 the under sides are flat. This pipe is formed of steatite or soapstone, an easily wrought material.

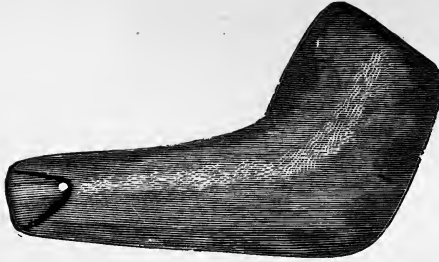


FIG. 18. (Full Size.)

In this pipe (Fig. 18.) we have something like the modern form. As is frequently the case, however, the hole in the bowl is exceedingly small: so small as to suggest that the article itself was more for ornament than use.

This seems to be unmistakably the case in Fig. 19, in which the aperture is smaller still, and at each corner of the extremely flattened stem is a hole for suspension from a string. The holes show marks of wear. Both pipes are quite black, and are of steatite. Locality unknown.

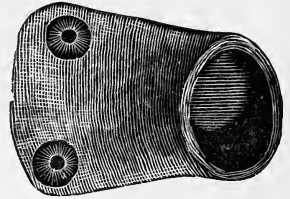


FIG. 19. (Full Size.)

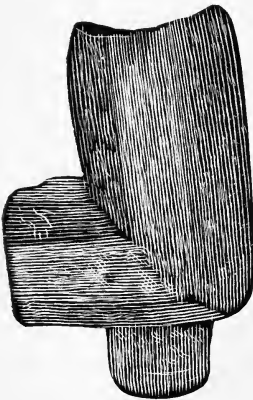


FIG. 20. (Full Size.)



FIG. 21. (Full Size.)

We have a somewhat singular variation from Indian methods in Fig. 20, the bowl and short stem being six-sided. Locality, Beverly township.

Even in stone we find an attempt made to imitate the "human form divine." Fig. 21, from Mr. McKnight's farm, Beverly, is of white marble, slightly discolored. It is roughly four-sided, and, although stemless, is complete, there being a hole bored at the back to communicate with the bowl.

Such heads are not uncommon, and many of them have a suspension hole, generally at the lower end. Such a hole is to be found in this specimen, although not shown in the cut, as it passes from right to left behind the chin.

The features are in very low relief, the nose being almost flat.

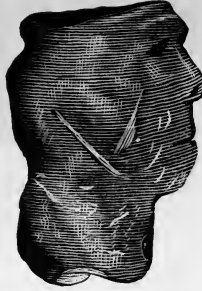


FIG. 22. (Full Size.)

A more pretentious attempt at sculpture has been made in Fig. 22. The broken end would indicate that there had been originally material to form a stem, but the piece having become detached before the pipe was finished, a hole has been bored at the back of the neck for the insertion of a wooden tube. Through the lips of the bowl and at the base of the neck three other holes have been made—it is hard to say for what purpose.

The forms of pipe are almost infinite in variety, and the ancient people clung with greater tenacity to pipes of their own make than to anything else, after communication with the Whites enabled them to procure what they were quick enough to perceive were superior articles.

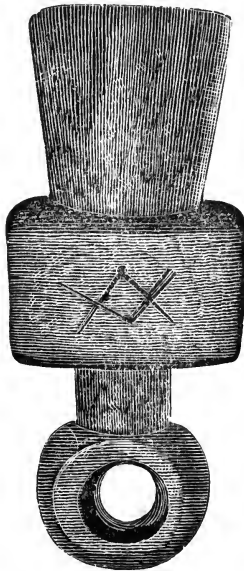


FIG. 23. (Full Size.)

The influence of European contact is plainly seen in Fig. 23, not only so far as the shape is concerned, but in the character of the finish, which shows the employment of better tools than those formerly available. But this is further evidenced from the appearance of the square and compasses which are plainly enough seen on the front side of the squared central portion, unless, indeed, we accept this as a proof that the "mystic art" was not unknown in the *lodges* of the aborigines! An enthusiast in this kind of lore might be curious in any case to ascertain in what "degree" the pipe had been made, but the nature of the markings are not such as to make the position of the "points" quite clear.



FIG. 26. (Full Size, stem half length.)

The natives of the Pacific Coast attained to high excellence in rude sculpture. Many of their pipes are marvels of ingenuity and much more complicated in design than Fig. 26, of which only half the stem is shown. This specimen is of jet black material. The stem is cylindrical, but the head is a compressed oval, the greater axis being from front to back. The exact locality is unknown, as this specimen is part of the York Pioneers' collection, and scarcely any article in it can be located.

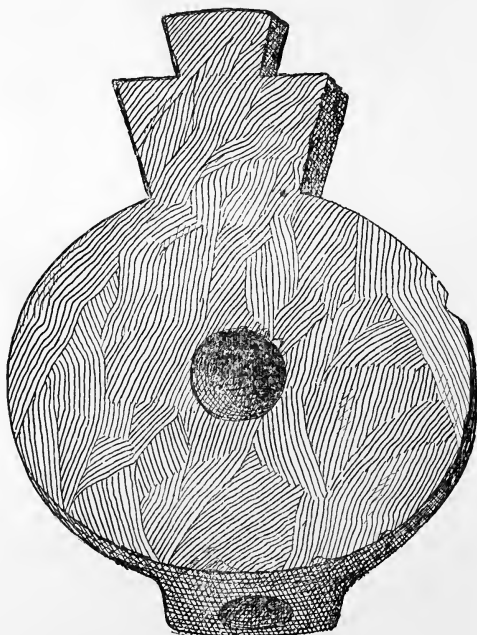


FIG. 27. (About three-fourths Size.)

Fig. 27 is a remarkably odd pipe, if pipe it be, from the farm of Mr. Ed. Beecroft, lot 19, concession 8, Nottawasaga. It is made of bloodstone or catlinite. It is perfectly symmetrical in form. The broad side is little more than one-fourth of an inch in

thickness. The back consists of a strong square-sided rib (the wide end of which is shown in the engraving) of the same depth or thickness all along, but having its two sides converge almost to a point at the lower end. It was found in the ossuary already mentioned, in which a very large number of bodies were found upwards of forty years ago, on Mr. Beecroft's farm.

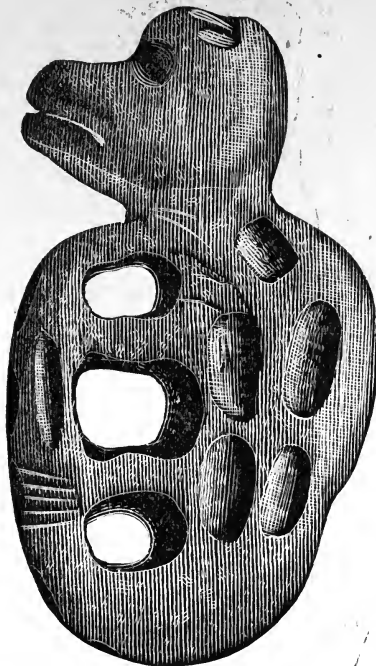


FIG. 28. (Full Size.)

One of the most remarkable relics ever found in this country is that shown in Fig. 28. It was presented to the Institute by Mr. Findlay McCallum, of Milton, in the county of Halton, and was found by him on his farm there.

Notwithstanding the length of the nose, the resemblance of the head to that of a monkey is very striking. The length of the tail also adds force to the belief that the animal named was intended to be represented, although the engraving does not bring this out very clearly. This appendage is made to form the front of the pipe, being turned up until it meets the neck, when it curves downwards for a short distance on each side. The feet, or hands and feet, are carved as if grasping the tail in this position. The hole forming the bowl is bored downwards from the shoulders and meets a smaller aperture at a right angle to it near the base, for the insertion of a stem. On each side of the pipe are six cavities—five on the body and one on the tail. On the base and front of the tail (as curved upwards) there are other six; on the top of the head are five more, and at the back, between the two holes, there is another, but much shallower hollow. The eye holes are deeply bored.

Two small holes have been made to imitate nostrils, and the lower side of the under jaw has been carefully worked to show the anatomical arrangement of the bones.

The surface of the pipe is black, whether from usage or by the application of a pigment it is hard to say, but the material itself is a light grey, very soft and porous,

and quite unlike anything in the geological formations of this province. Under a magnifying glass small metallic looking specks appear, but they are probably micaceous.

There is little doubt that the specimen found its way from more southern latitudes, along with the shells brought hither for the making of wampum.

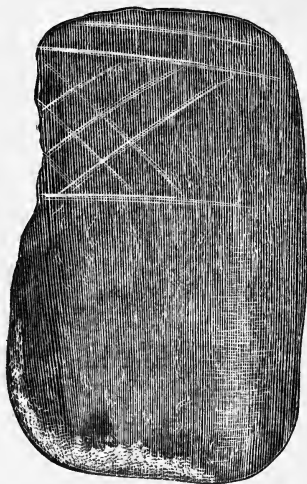


FIG. 29. (Full Size.)

The only interesting feature about Fig. 29 is that it was found in a veritable mound on the property of Mr. C. A. See, Tremont Park, Tidd's Island, Gananoque, along with a number of other extremely interesting and valuable relics.

It is part of a pipe bowl made from freestone. It is simple in design, the pattern consisting merely of a few diagonal lines.

BREASTPLATES OR GORGETS, AND PENDANTS.

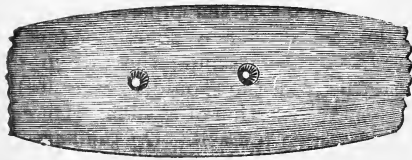


FIG. 30. ($\frac{1}{4}$ Size.)

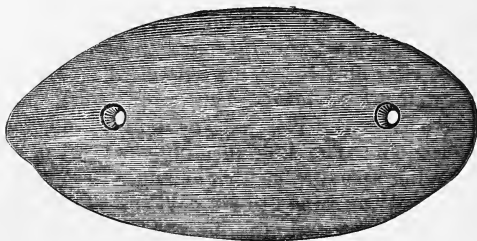
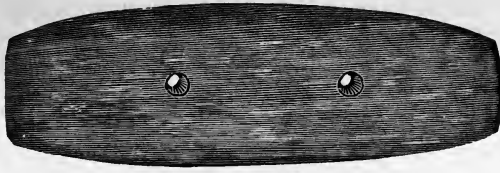


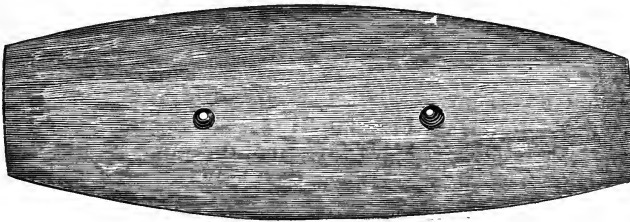
FIG. 31. ($\frac{1}{4}$ Size.)

There is perhaps no other class of Indian relics regarding which there is so much diversity of opinion as in relation to such as those figured from 30 to 38.

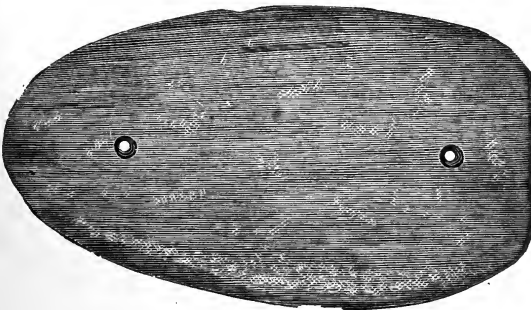
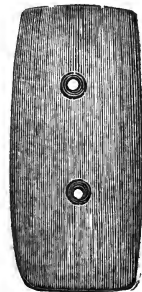
They are usually formed of a light, greyish blue slate, from one-fourth to half an inch at the thickest, and thinned off at the edges.

FIG. 32. ($\frac{1}{4}$ Size.)

As may be seen from the cuts, they vary in shape, in size, and in the number, as well as the arrangement of holes, with at least one of which they are always found perforated, although the greatest number have two. They are found all over the province (wherever other relics appear), and every collector has one or more specimens.

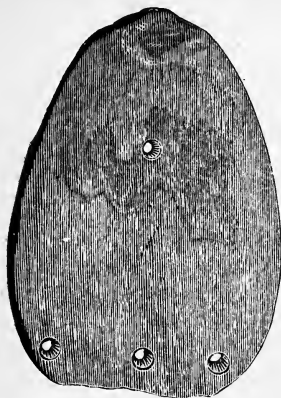
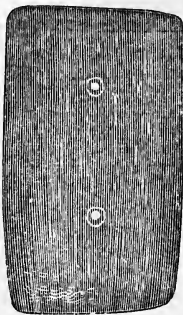
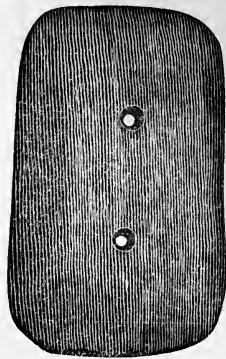
FIG. 33. ($\frac{1}{4}$ Size.)

Theories as to their use are nearly as numerous as the writers who have referred to them, and these are not few. They have been described as gorgets, or breast-plates, by those who consider them to have been purely ornamental. From this point of view the holes would be merely for suspension, and, although it is true that many have holes showing signs of wear, there are probably just as many that do not. Besides, the wear may be accounted for otherwise, as for example, by those who entertain the belief that the articles in question were used for the purpose of rounding thongs and sinews for bow-strings, fishing-lines, etc.

FIG. 34. ($\frac{1}{4}$ Size.)FIG. 35. ($\frac{1}{4}$ Size.)

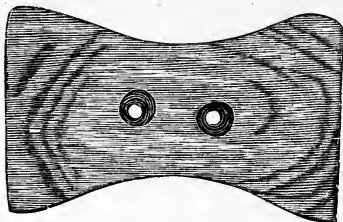
It has also been held that they were worn on the crown of the head, as a means of attachment for feathers, porcupine quills and other gauds.

They may have been employed in some way for netting or weaving, or were, perhaps, simply regarded as charms.

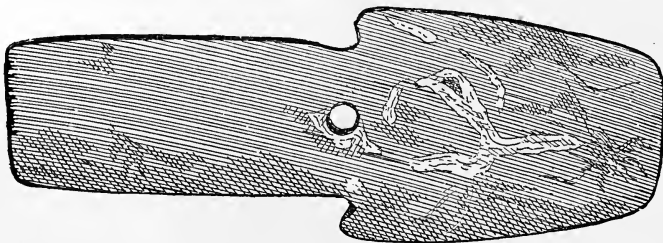
FIG. 36. ($\frac{1}{4}$ Size.)FIG. 37. ($\frac{1}{4}$ Size.)FIG. 38. ($\frac{1}{4}$ Size.)

In some instances the holes are bored straight through (Figs. 34 and 37), but generally they are oblique, as in Figs. 30, 31, 32, 33, and 36.

The smallest of these tablets, Fig. 35, is from the farm of Mr. George Strangways, near Elora. The others are from various places east, west, and north of Toronto.

FIG. 39. ($\frac{1}{4}$ Size.)

Differing somewhat from these is Fig. 39. This beautiful specimen is almost symmetrical, and is richly banded with lines of deeper color than the ground. It is three-eighths of an inch thick in every part, including the edges, which merely have the corners slightly rounded. It was found near Jarvis, in the county of Norfolk, and formed part of Mr. Stewart's collection.

FIG. 40. ($\frac{1}{4}$ Size.)

This spade-like object, Fig. 40, was procured from Mr. Wilson, near Sherkston, a few miles from Port Colborne, in the township of Humberstone. At both interior

angles there are considerable signs of wear, but not much about the hole. The material is also light blue slate, with irregular spar-like veins.



FIG. 41. ($\frac{1}{4}$ Size.)

Fig. 41 is of a remarkably elegant form, very thin, and of beautifully veined greenish-blue slate. It was found near Galt.



FIG. 42. ($\frac{1}{4}$ Size.)

Fig. 42 is peculiar in its being hollowed throughout the greater portion of its length, as shown in the cut. Regarding the hollowed surface as the top of the specimen, the bottom is an inch and a quarter deep at the middle, from which it tapers to both ends until it is only three-sixteenths of an inch in thickness. The piece may be described as being of canoe shape. The inevitable holes with which it is pierced show slight signs of wear.

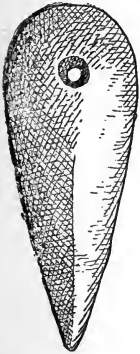


FIG. 43. ($\frac{1}{4}$ Size.)

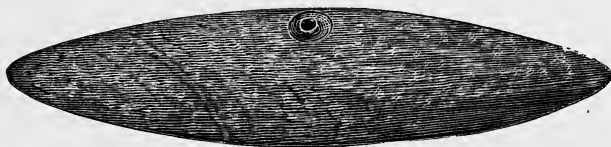
If used simply as an ornament, parallels are not wanting for such an application among ourselves, for jewellery is frequently made in imitation of snow-shoes, toboggans, anchors, horse-shoes, etc.

Of similar material, but totally different as to form and finish, are two pieces from the Tidd's Island mound. One of these is shown at Fig. 43. The under side is flat, the side shown in the cut is ridged, being three-eighths of an inch thick in the middle and sloping sharply to the edges. They were probably used as ornamental pendants, and worn either round the neck or the waist, although scarcely any signs of wear are observed about the holes.

CEREMONIAL WEAPONS.

An easy way of accounting for the probable use of mysteriously formed archaeological objects is to state in general terms that in all probability they were used for ceremonial purposes. There is, however, a class of these, gracefully modelled, highly finished, and of comparatively fragile material, that seem, without any doubt, to have been employed by the Indians only upon "high" occasions, *e. g.*, their various dances, celebrations of victory, and tribal pow-wows.

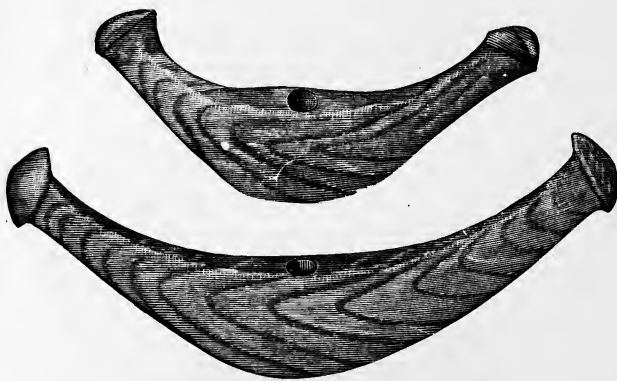
In nearly every case the objects in question are symmetrical, or nearly so, and are perforated in the centre as if for the reception of a handle or staff, which, from the size of the hole, must have been too slender to prove effective for offensive or defensive purposes.

FIG. 44. ($\frac{1}{4}$ Size.)FIG. 45. ($\frac{1}{4}$ Size.)

Figs. 44 and 45 are of the simplest form, the transverse section being perfectly round. In Fig. 44 the side view is given, and the hole, only about three-eighths of an inch in diameter, is not shown.

Fig. 45 is a much heavier weapon. The proportionately small hole is shown on the upper side.

Stone heads of similar form are in common use among the Indians of the North-West; but, instead of the hole, a groove is cut round the middle, about which is bound a strip of "Shaganappi" or raw-hide for the purpose of fastening the weapon to the handle.

FIGS. 46 and 47. ($\frac{1}{4}$ Size.)

Figs 46 (from Plympton) and 47 (from Zone Township) show what was a favourite form. They are suggestive of buffalo-horns, and we know that the supposed originals were frequently employed as an ornamental head dress. The material is a beautifully marked slate in both cases, and the knobbed ends probably served as means of attachment for scalps, feathers, or trophies of any kind that might thus be displayed when carried aloft by the happy possessor in the indulgence of his orgies. These formed part of Mr. Stewart's collection.

FIGS. 48 and 49. ($\frac{1}{4}$ Size.)

Other shapes are not uncommon. Fig. 48 (from Wingham) has some resemblance to the seed of the maple ; but Fig. 49 (from lake shore, Norfolk) appears to be quite fanciful, as indeed are most of these "ceremonial" objects.

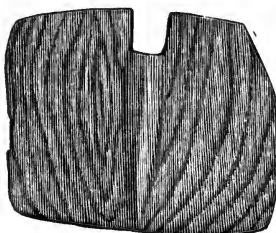
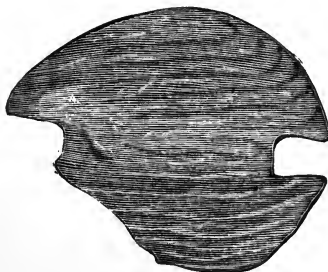
FIG. 50. ($\frac{1}{4}$ Size.)

Fig. 50 (from Port Perry) has been originally almost square ; but, one corner having been broken, subsequent rubbing down has again produced a sharp edge.

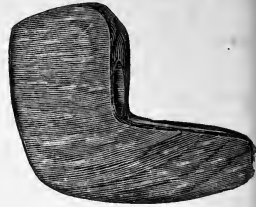
Such evidences of repair are not unfrequent. Articles that have been made for one purpose have, in some instances, been modified, on account of breakage, so as to be suitable for another use.

FIG. 51. ($\frac{1}{4}$ Size.)

For comparative purposes, Fig. 51 is here introduced. It represents a so-called "banner-stone" found in an Ohio mound ; and one cannot fail to be struck by the similarity of design and workmanship when compared with those of Indian origin in our own and other collections.

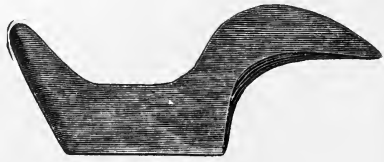
It is not unlikely that sufficient proof will soon be forthcoming to show us very clearly that the Mound-Builder race theory is foundationless, and that all the highly imaginative speculations relating to an exterminated people have no good ground on which to rest.

As a rule holes made by the aborigines in the various articles they produced, are round, the result of drilling. An elliptical hole is rarely met, but in Fig. 52 the perforation which has been made from right to left, a little above the inner angle, is a well-formed oval. A hole of this shape indicates considerable advancement in mechanical ideas, because it could have been formed only by drilling two small holes side by side, and then cutting away the separating material.

FIG. 52. ($\frac{1}{4}$ Size.)FIG. 53. ($\frac{1}{4}$ Size.)

Polished stones like Fig. 53 are very rare and their use is doubtful. Even as ceremonial objects it is not easy to divine what part they played. Shorter and proportionately thicker specimens are sometimes found having a hole bored diagonally at each end from the flat surface outwards, and it has been suggested that they were used as hand-pieces in the middle of bow-strings, but Fig. 53 is too long and too slender for such a purpose, unless we suppose it to have been intended for attachment to a purely ornamental weapon. There are no holes at the extremities.

TOTEMS OR TRIBE SYMBOLS.

FIG. 54. ($\frac{1}{4}$ Size.)FIG. 55. ($\frac{1}{4}$ Size.)

There is much difference of opinion regarding the use of such specimens as are figured here (Figs. 54 and 55). They have been believed by some to be "totems," or tribe-emblems, but Mr. H. Gillman, in his report to the Smithsonian Institute, 1875, says: "I have learned, through an aged Indian, that in olden times these ornaments were worn on the heads of Indian women, but only after marriage. I have thought that these peculiar objects which are always made of some choice material, resemble the figure of a brooding bird; a familiar sight to the 'children of the forest' that thus they are emblematic of maturity, and as such were designed and worn."

Fig. 54 is plainly meant to represent a bird, although the form is somewhat conventionalized. The eyes are enormously out of proportion, being nearly of the same diameter as the head itself. They project by means of a footstalk nearly half an inch from the sides of the head, but this is not well brought out in the engraving. The two

feet seem to be formed solely for the purpose of enabling the figure to balance itself. A hole is bored obliquely through each end from the inside of the feet outwards in a forward and backward direction. It was found near Thorndale.

Fig. 55 is of a pattern not uncommon in mounds. The outline is suggestive of bird-form, but there has been no attempt to work out any details.

The locality in which this specimen was found is unknown. Both of them formed part of Mr. Stewart's collection.

Another specimen, almost identical in form with that last mentioned, has been so ingeniously shaped from a piece of richly grained slate as to make an oval mark containing a dark spot, take the place of an eye. This really beautiful specimen is from the farm of the Messrs. Baby, near Lambton.

Probably the best "totem" in our collection was found near Port Rowan. It is formed of a hard amygdaloid, and must have cost an enormous amount of labour to bring into its present shape, although what that shape is one can hardly say. In some respects it resembles a snail, perhaps, more than anything else. It was procured from Mr. Stewart.

All these animal forms are worked out in relief, and are from one to two inches in thickness, but from the Loughed farm, Nottawasaga, we procured two small figures that may also be considered as "totems" wrought from slate less than an eighth of an inch in

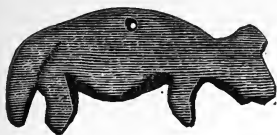


FIG. 56. (Full Size.)

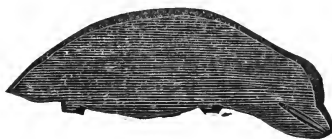


FIG. 57. (Full Size.)

thickness. One of these is probably a bear (Fig. 56), the other of about the same size is shown in Fig. 57, and is no doubt meant to represent a beaver. In the former case a small hole has been bored about the middle of the back, as if to suspend it evenly, but in the latter there is nothing of this sort.

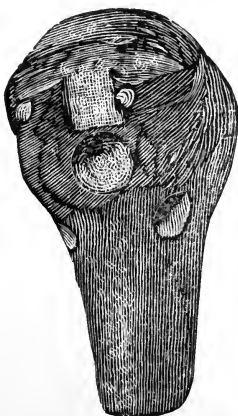


FIG. 58. (Full Size.)

Something in the line of sculpture is shown at Fig. 58. The same kind of material is employed here also. The design is a wolf's head, the ears projecting sharply and proportionably high. Two deep holes have been bored for eyes, and a third hole,

larger and deeper, has been drilled in the forehead. The back portion of the head is unfinished.

A very delicately carved head an inch and a half long was found on the Dwyer Farm, Beverly. Want of time has prevented it from being figured. The workmanship reminds one more of Central America than of this latitude—even the features and head-dress are not in correspondence with what we would expect from a Canadian Indian.

We have just received from the Longheed Farm, Nottawasaga, a marvellously carved stone pipe; the human head and face on which are the work of one who must have been a very Michael Angelo among the aborigines. From the same place also comes the head of an owl in clay, also of fine workmanship.

Imitations in clay are sometimes very good. The hawk, or eagle, figured in Fig. 71, is a sample of several in our collection, and some of our best specimens have come in as this is going to press, so that further reference to them must be deferred. Figs. 56 and 57, recently added specimens, are from Longheed Farm.

It is highly probable that all or most of these objects were employed for totem purposes, that is, much as we use flags or coats of arms, viz., as symbols of nations or tribes.



FIG. 59. (Full Size.)

SLATE SPEAR HEADS.

Among the "ceremonial" weapons may be included certain spear, or arrow-points, made of the same fragile material as that from which the "banner stones" are formed, viz., light, grayish-blue slate. No deadly wound could well be inflicted by such a weapon more than once, because it would inevitably break the moment it hit the mark.

Fig. 60 shows the common way of fastening to a shaft.

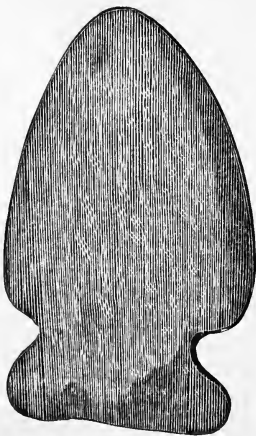


FIG. 60. (Full Size.)

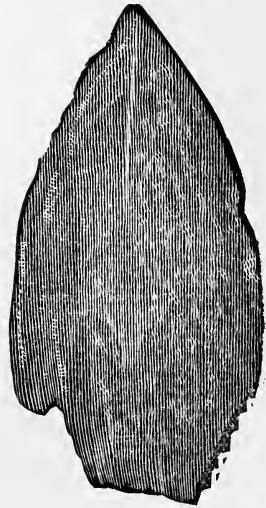


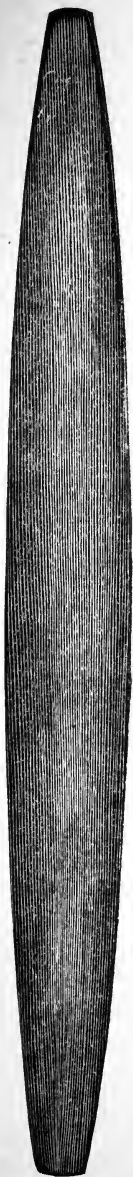
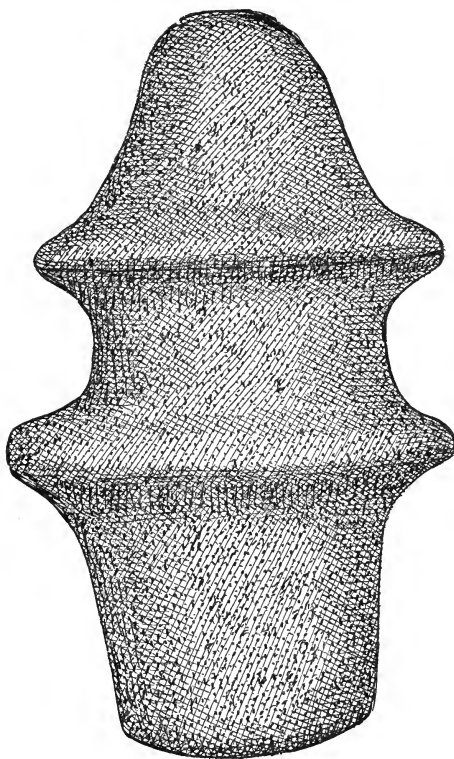
FIG. 61. (Full Size.)

A different mode of attachment is shown at Fig. 61. This specimen was found by Prof. Vandersmissen and myself on Withrow Avenue, Toronto, where workmen were engaged in making the road-bed. Our collection contains several similarly formed heads of the same soft slate material.

GROOVED AXES.

Of stone axes and chisels (or so-called skinning knives), we have a large number and variety, but little need be said about them. Some of them are long enough to be held immediately in the hand when employed as tools ; others, not quite so long, were no doubt bound to handles, and the shortest—from three to four inches—were inserted in sockets at the end of stout wooden hafts in such a manner as to leave only an inch or so projecting. Mounted in this way, they formed an effective weapon at close quarters.

A very beautiful specimen of chisel (Fig. 62) pointed at each end, was presented to the museum by Chief Smith (De-kah-neu-ra-neh) of Brantford. It is fully one foot in length, and is the most elegantly formed implement of the kind in our cases.

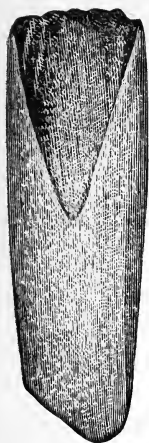
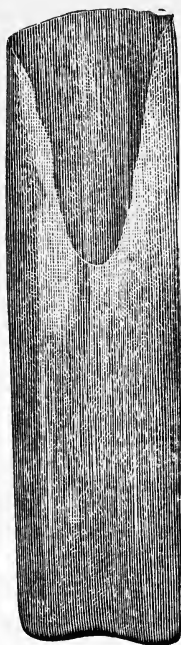
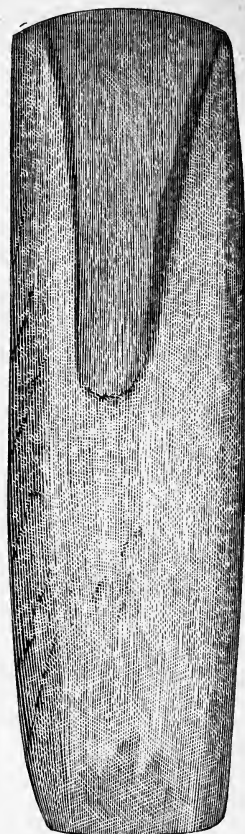
FIG. 62. ($\frac{1}{4}$ Size.)FIG. 63. ($\frac{1}{4}$ Size.)

We can also boast of a few first-rate specimens of grooved axes. Some of these form part of the York Pioneers' collection, and others were secured from Mr. Stewart, of Strathroy.

Fig. 63 shows one of the latter, found near Galt. It is a magnificent piece of aboriginal workmanship, and is well adapted for the purpose it was intended to serve. Of syenite, hard and close-grained, it is capable of bearing a much keener edge than one might suppose possible. The mode of fixing a handle to such an implement is easily seen.

GOUGES.

Among all the products of the Indians' handicraft few exhibit more patient labor than do the stone gouges that are occasionally found in ossuaries and on old village sites.

FIG. 64. ($\frac{1}{4}$ Size.)FIG. 65. ($\frac{1}{4}$ Size.)FIG. 66. ($\frac{1}{4}$ Size.)

The material of which they are usually formed is a close-grained stone of primary formation, and capable of bearing a fine edge. Many gouges are hollowed only far enough back to permit of the lips being properly formed, as in Figs. 64, 65, and 66; others, like Figs. 67 and 68, are hollowed the whole of their length.

FIG. 67. ($\frac{1}{4}$ Size.)

Figs. 65 and 66 are from the Baby Farm, Lambton, where they were found by Mr. Kirkwood, an enthusiastic collector; and Fig. 67 is from the County of Victoria, and is

made of what seems to be lithographic limestone. The largest specimen (Fig. 68) we have was presented to the Institute by Mr. John Hind, in 1857, but the label bears no record of where it was found.

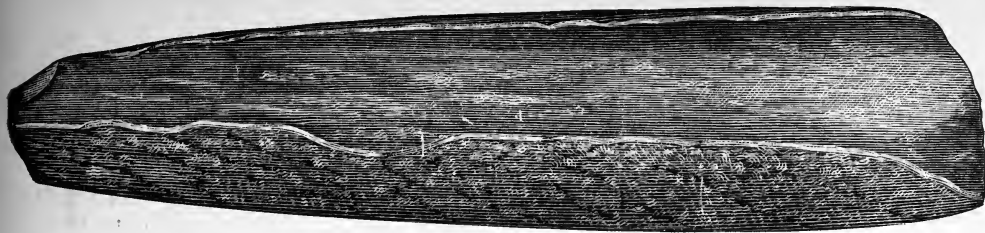


FIG. 68. ($\frac{1}{4}$ Size.)

TUBES.

The same kind of stone that was used for making "gorgets" and "ceremonial weapons" was employed for the production of tubes, the use of which is not ascertained. It is said that among some south-western tribes similar tubes are still used by the "Medicine Men" when performing their incantations on a diseased person. Applying one end of the tube to the seat of pain, they profess to suck out the evil spirit that causes the trouble. This is not an improbable use; but, however that may be, much time, labour, and ingenuity have been expended in their production. Many of them are almost perfectly cylindrical, and some are flattened on two sides. The accuracy of the boring is generally remarkable. Sometimes, in a length of even six inches, there will appear no more variation than if the work had been done in a lathe.

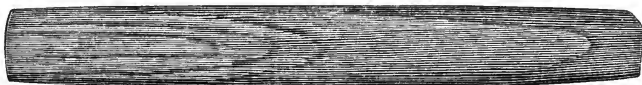


FIG. 69. ($\frac{1}{4}$ Size.)

Fig. 69 is nearly seven inches long, and is a fair specimen of aboriginal skill in this line. It formed part of Mr. Stewart's collection.

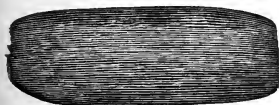


FIG. 70. ($\frac{1}{4}$ Size.)

Fig. 70 is more clumsily shaped, but is well bored, and shows what is a more common form. Objects of this kind are comparatively rare.

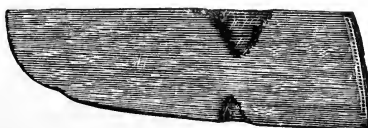


FIG. 71. ($\frac{1}{4}$ Size.)

The accompanying cut (Fig. 71) is a section of a stone through which it has been intended to bore a hole. It enables us to form some idea of how such work was performed.

BEADS.

An almost indispensable portion of the aboriginal outfit, for both male and female, was a quantity of beads. Bloodstone or catlinite was a favourite material, but other stones of brilliant color were often substituted. We have been very fortunate in being able to procure some pieces of stone in process of being shaped into beads, and which shew us the laboriously slow methods that were necessarily employed by the Indians in fashioning these personal adornments.

We have in our cases several pieces of hard, close-grained stone partially cut into strips preparatory to being squared, or rounded, and bored. We learn from this and other specimens that the rough block of stone was first polished on two sides, so as to present even surfaces for marking off and for being ultimately sawn through by means of flint-flakes. Probably this sawing process was aided by water. When a moderately deep cut had been made on both sides, the strip was broken off, cut into lengths, and bored; but how the boring was done, when the holes required were so small, it is not quite so easy to understand. Beads, broken lengthwise, enable us to see that the process was carried on from each end; but here certainty ceases.

As this goes to press, a specimen has come into our possession from the celebrated Loughheed Farm, proving that the Indians understood a method of cutting stones somewhat similar to the plan known as "plug and feather," which we employ in our quarries to-day; a series of holes has been bored in line close to each other, the necessary or unnecessary piece of material has been broken off, and then friction has been resorted to for the purpose of removing the projecting portions between the holes. Our specimen shows the work in an incomplete condition, and like all other similar specimens is especially valuable on that account.

The beads were sometimes from three to six or more times as long as they were thick; almost cubical, and frequently sometimes roughly spherical.

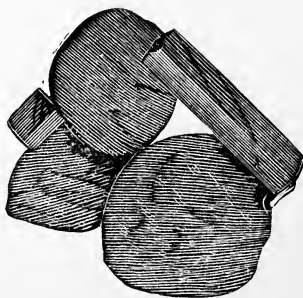


FIG. 71. Full Size.)

Fig. 71 gives a fair idea of some of the shapes most commonly found. The early French and other European traders were not slow to take advantage of the Indians' fondness for this kind of display, and they consequently made and imported enormous quantities of coarse glass beads of brilliant hues (generally red and blue) and bearing a

pattern that no doubt powerfully fascinated the native eye. (Fig. 72.) For these gew-gaws valuable peltries were readily exchanged, and in process of time the European

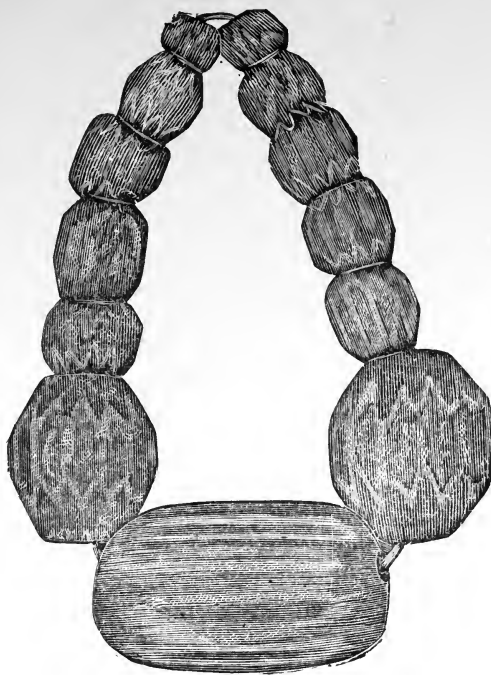


FIG. 72. (Full Size.)

article wholly displaced the ancient stone adornment. Other beads less pretentious in size and color were also brought over by the ton, and are now found in almost every ossuary of post-European origin.

Fig. 73, from Beverly, is a common form. It is made of blue glass, and is square sided.



FIG. 73. (Full Size.)



FIG. 74. (Full Size.)

Fig. 74 is a stone bead or pendant of a somewhat unusual pattern. Instead of a hole piercing it lengthwise it is provided with two holes—one at each end, bored at an angle, so as to pass through the corner.

The cut would seem to indicate that they pass through almost at right angles, but this is owing to a mistake on the part of the engraver.

FLINTS.

Little need be said of flint implements in a general way. All over the world they are much alike.

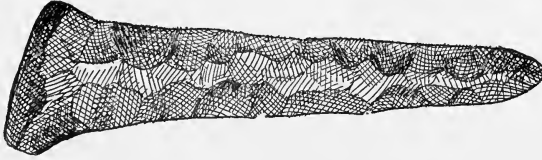


FIG. 75. (Full Size.)

The long, narrow, and comparatively thick flints were no doubt used as drills in the fashioning of stone pipes, and such articles as the necessity for carrying which required a perforation. Fig. 75 is a fair sample of drill.

A few illustrations are given to show the different methods of attaching arrow heads and spears to shafts.

The simplest method was that employed with the war arrow, as Fig. 76. The base of the weapon generally had a slight inward curve, and was worked to a thin edge for insertion in the cleft end of the shaft, without any more binding than was requisite to hold it firmly in position while upon its errand of death. Being short, thin and sharp, it easily penetrated the flesh and embedded itself beyond sight, so that on any attempt being made to remove it the shaft became easily disconnected, and left the weapon in the wound.

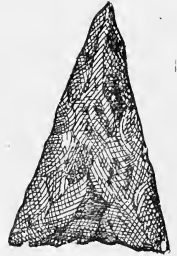


FIG. 76. (Full Size.)

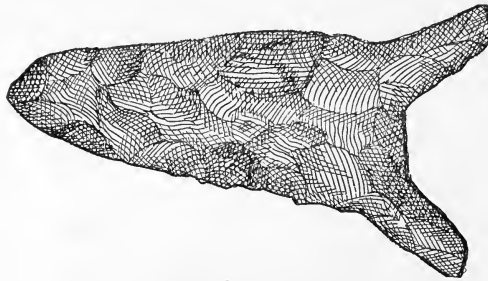


FIG. 77. (Full Size.)

Fig. 77 is of the same type, but larger, and has the angles at the base prolonged to form barbs.

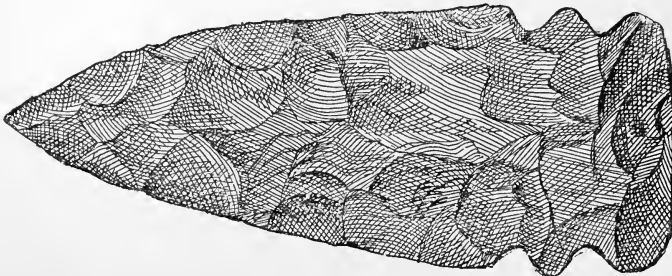
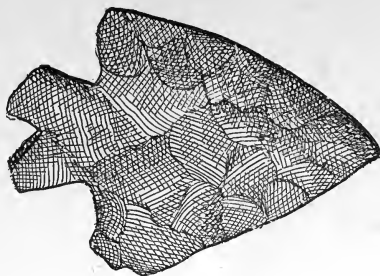


FIG. 78. (Full Size.)

Fig 78 is somewhat peculiar in being double notched, besides having a neck. Flints

notched in this manner are rare. This was in Mr. Stewart's collection, and the locality is unknown.



(FIG. 79. Full Size.)

A rarer form still is seen at Fig. 79. In this case the neck of the weapon is cleft. Evidently the chipping is not accidental, because it is done neatly and evenly from both sides.

Figs. 80 and 81 represent two of sixty-eight, all roughly leaf-shaped flints found buried together a few inches below the surface, on the farm of Mr. Arthur Seabrook, near Komoka, in the township of Delaware. The farm is on the right bank of the Thames, and the pieces were embedded in the level ground at an elevation of at least fifty feet above the river, the bank of which is here quite high. Not far away from the spot is a stream of spring water which forms a beautiful cascade as it tumbles over the steep brow to reach the river; and taken altogether the situation was just such as would delight the heart of an Indian.

If we regard these rudely formed flints as finished articles, they could not have been intended for use as arrow-heads—their flight would be too uncertain: besides no provision has been made for fastening them to a shaft. The latter reason would also preclude their use for spear or lance purposes. It seems highly probable that they were intended for insertion in the heads of clubs—the tapering end being let into the wood, and the sharp semi-circular edge allowed to project from an inch to an inch and

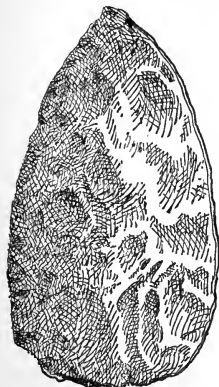


FIG 80. (Full Size.)

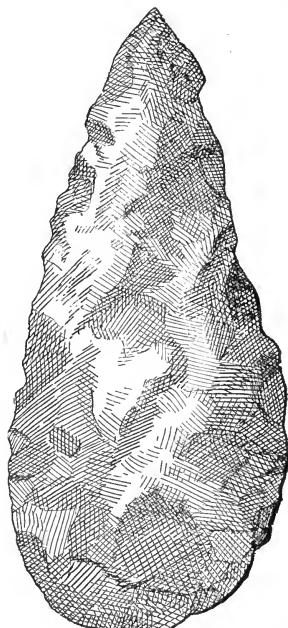
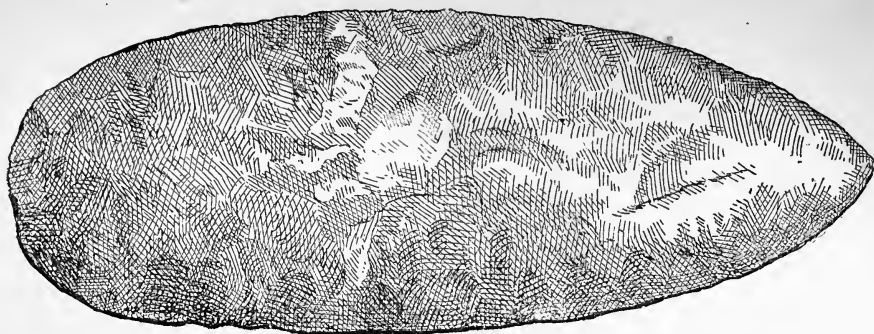


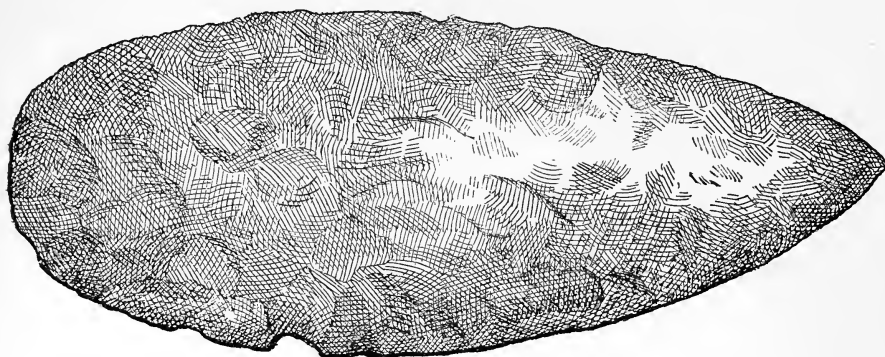
FIG. 81. (Full Size.)

a-half. On this supposition their very roughness would be an advantage to them in maintaining their hold.

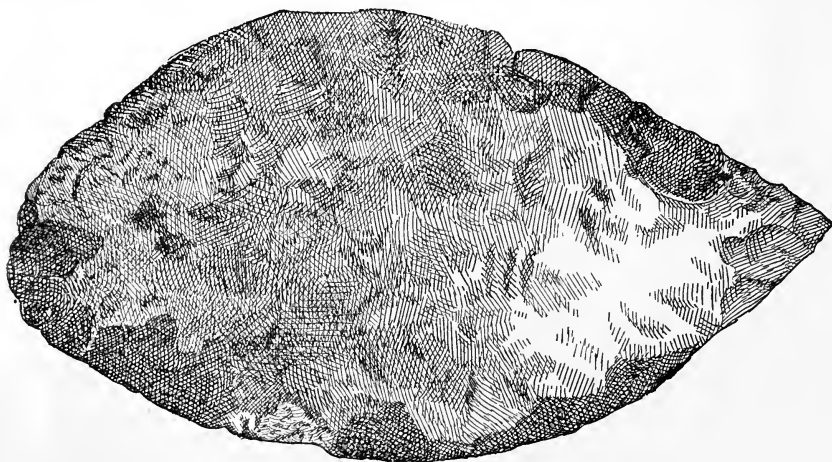
The whole of Mr. Seabrook's "find" is now in our collection.

FIG. 82. ($\frac{1}{4}$ Size.)

Figs. 82, 83 and 84 are from the Tidd's Island Mound. They are chiefly remarkable for their great size—so great as to hinder the supposition that they were used even as spears.

FIG. 83. ($\frac{3}{4}$ Size.)

The longest (Fig. 83) measures nine and a-quarter by three and three-quarter inches,

FIG. 84. ($\frac{1}{4}$ Size.)

and another (Fig. 84), is eight and a-half by four and a half inches. The latter is of a dark grey compact, but shaly-looking material, and very thin in proportion to its other dimen-

sions ; the former is of the same cherty stone as that from which the arrows or "flints" are generally formed.

There can hardly be a doubt that these large objects were used as spades or as hoes. The surface soil on the island is light and might be readily stirred by means of these tools, even if held directly in the hand, but is not improbable that they were attached to a handle.

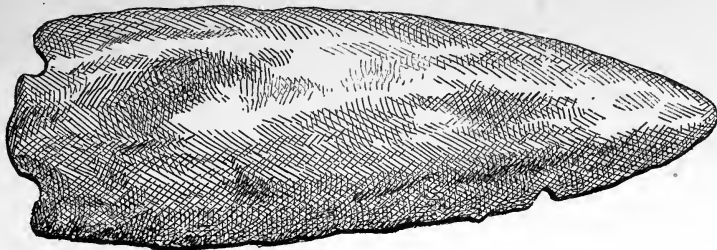


FIG. 85. ($\frac{1}{4}$ Size.)

Some of the smaller specimens from the same place are of quartzite, in one (Fig. 85) the material is of a pale, milky hue, and presents a beautiful appearance. The lower portion of the neck has been broken off.

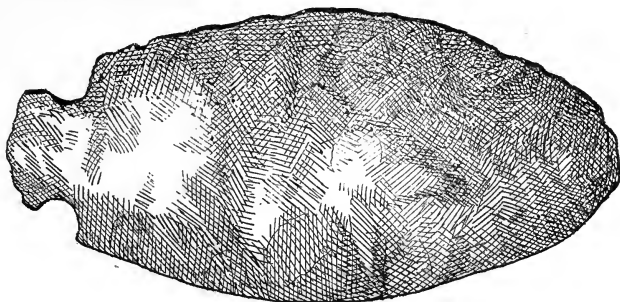


FIG. 86. ($\frac{1}{4}$ Size.)

Fig. 86 is also a fine weapon. The quartzite has rich dark veins running through it. Neither in this case nor in that of Fig. 85 does the cut do anything like justice to real appearance of the stone.

Some of these were found by Mr. C. A. See, of "Tremont Park," in which the mound is situated, and some were found by myself when examining the place subsequently. Those that may be regarded as agricultural implements, are very thin in proportion to their length and breadth.

With regard to the vexed question, Who were the Mound Builders? I venture the opinion that these relics and those of copper, referred to elsewhere, which were found in the same place, afford a strong argument in favor of the belief that the people hitherto spoken of as an extinct race, were none other than the Indians themselves. That the historic or recent Indian knows nothing whatever regarding the origin of the remarkable earth-heaps, known as mounds, is no more singular than that they are now totally ignorant of the uses of many such comparatively modern implements and utensils as are to be found in almost every collection.

As a people, they have simply changed their habits—slowly, no doubt, and in the absence of any literature, tradition has failed to preserve a record of obsolete customs, excepting in so far as these may be mentioned incidentally in their mythology.

The Institute was fortunate in having secured all the characteristic specimens found in the Tremont Park Mound, and special thanks are due to Mr. C. A. See, the proprietor, for his generosity not only in presenting the specimens he himself had found, but for permitting us to prosecute a further search, and thus to add many more valuable articles.

GRINDING AND RUBBING STONES.



FIG. 87.

From the farm of Mr. James Dwyer, in the township of Beverly, a prolific source of good material, we obtained the large stone of which the above is a fair representation. It is fully three and a half feet long, and about two and a half in breadth. When lying in Mr. Dwyer's bush it was upwards of a foot in thickness, but this has been considerably reduced to render it more portable.

It is a fine gritty freestone, and bears marks of usage by the Indians for rubbing, smoothing and sharpening purposes.

Mr. Dwyer kindly undertook, free of cost, to team this massive and instructive specimen to Copetown station (a distance of eight miles from where it was embedded in the soil), for transmission to Toronto.

Other stones that have been used for similar purposes are known to exist in various parts of the Province, and it is hoped that public-spirited citizens, upon whose property these lie, will emulate the example of Mr. Dwyer, for the benefit of the Provincial Archaeological Museum.

SHELL OBJECTS.

Somewhat similar to the beads, and often used for the same purpose in a measure, was the *wampum*, or white shell money of the Indians. It was made in two forms, discoidal and cylindrical. Woven into belts, it served as a girdle, and special patterns were sometimes made to confirm bargains and ratify treaties between various tribes. The arrangement of the bars and other portions of the design had special significations, the recollection and interpretation of which were entrusted to a chief known as the "Fire Keeper," who was solemnly bound not to permit the belts to go out of his care without the permission of his tribe in council assembled. Treaty belts of wampum were from three to six feet in length, and from six inches to a foot wide. ¶ The Mohawks, on the Tuscarora reserve, near Brantford, still own some of the belts that were the joint property of the Six Nation Indians, previous to the American war, but none of the specimens are very ancient, as the cylindrical wampum of which they are composed is evidently of European manufacture, although made from shell. A considerable quantity of the same kind was found a few years ago in a cave on the Grand river, near Elora, and it was quite evident that the workmanship was that of the "Pale Face."

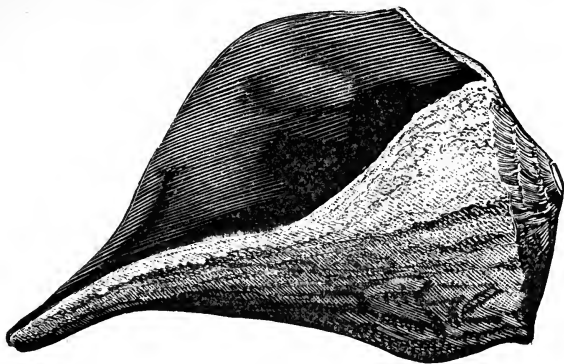


FIG. 88. (1-16 size.)

The discoidal, or flat form, is less common. It is made from a large univalve found on the shores of the Gulf of Mexico. Fig. 88 is a specimen that was found at Penetanguishene, and presented to the Institute thirty-two years ago, by Dr. Richardson, in 1856. We have specimens from Nottawasaga, and from the Dwyer farm, in Beverly, illustrating nearly all the steps in the manufacture of this wampum from the whole shell to the finished article.

These show us (Fig. 89) that after portions of the shell had been broken off, they were cut partly through on both sides, so that strips from three-eighths to about five-eighths of an inch wide might be formed. These were again cut across to make square blocks—a hole was bored in the middle from both sides, and the corners were ground down until the finished article was perfectly circular.



FIG. 89. (1-16 size.)

Many specimens of this "shell money" are so accurately made as to suggest that European traders imitated it as they did stone beads.

Another variety of wampum was made either of a black shell, or of a purple colored shell, and we learn from the writings of early settlers in New England that this dark or black wampum was estimated at several times the value of the more common white article.

The columellæ of univalves were also made into a roughly cylindrical form when small, but when larger pains were taken to form them more truly, and specimens are in our collection four inches in length and upwards of half an inch in diameter.

Shells from one-fourth of an inch to two inches long were sometimes perforated and worn whole, as pendants or bangles. Fig. 90 is one of this kind, measuring fully two inches in length, and of a species found only in sub-tropical salt water.



(FIG. 90. (1-16 Size.)



FIG. 91. (1-16 Size.)

But the unios or native fresh water mussels Fig. 91 were also employed for purposes of personal adornment. Sometimes they were merely bored, but occasionally an attempt was made to improve their appearance by a series of markings.



FIG. 92. (1-16 Size.)

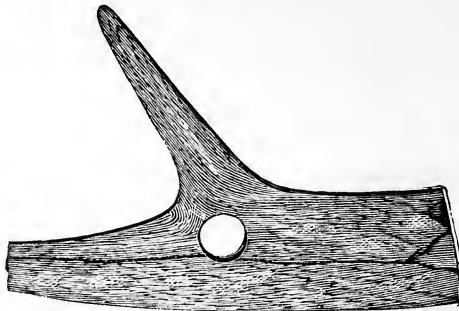
Fig. 92 is one of these on which the native artist has taken some pains to produce the semblance of a fish.



FIG. 93. (1-16 Size.)

A small, symmetrically-shaped pendant, made from a shell like Fig. 88, is shown at Fig. 93.

BONE AND HORN.

FIG. 94. ($\frac{1}{4}$ Size.)

Bone and horn were utilized in a number of ways. In Fig. 94 (from the Dwyer Farm, Beverly) the hole and cut end are the only indications of art. Other specimens of horn in our collection have been bored in the same way. A large but rudely formed gouge, made of horn, is the only implement we have of that material besides the perforated pieces already referred to.

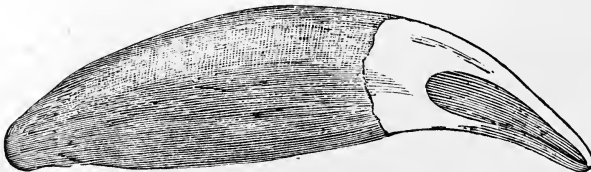


FIG. 95. (Full Size.)

In almost every burial place are found numerous bears' teeth. Occasionally these have a small hole bored at the extremity of the root, but usually they are intact, as in Fig. 95, which is of the natural size. Bone was much more frequently employed than

horn. Of this were formed the needles, or awls, so indispensable in the making of clothing and moccasins.



(FIG. 96. Full Size.)

As a rule these were made from long splinters, ground to a fine point, or from whole bones of suitable size treated in the same way. (Fig. 96.)

They could have been employed only to pierce holes, through which the sewing material had to be thrust. A famous old needle-maker must have plied his vocation for some time not far from Toronto, as considerable quantities of these bone articles have been found in the township of York.



FIG. 97. (Full Size.) -

In Fig. 97 we have what may truly be called a needle. The eye is well formed, and the specimen possesses evidence of long use. It is extremely thin, being scarcely one-twentieth of an inch thick in any part.

The two specimens figured, besides a number of others, form part of the Long collection, presented to the Museum by Mr. W. Long, Jr., of Lansing, York Township.

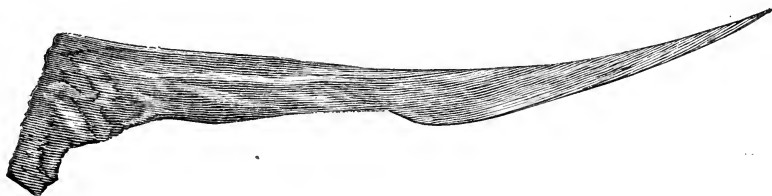


FIG. 98. ($\frac{1}{4}$ Size.)

Fig. 98 may be called a bone knife, if we may judge from the shape of the specimen, but its cutting qualities would hardly recommend it. In the modelling of pottery it would have proved useful both for smoothing the inner surface and for marking the pattern on the outer one. Loughed Farm, Nottawasaga.

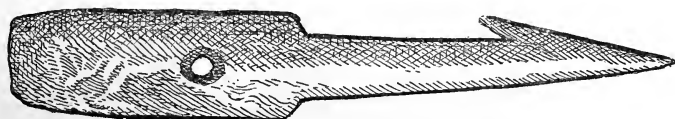


FIG. 99. ($\frac{1}{4}$ Size.)

We have a few specimens of bone spear or harpoon. The hole in the flat portion has been either to aid in fastening it into a handle or to carry it by a string when not in

use. The form is very much like that still employed by the Eskimo. Spears of this kind were probably used for securing the larger kinds of fish. Fig. 99 was found by Mr. Long, in York Township. We have another fine specimen from the farm of Mr. James Rae, Beverly.



FIG. 100. (Full Size.)

Fig. 100 may have been applied to a like purpose, but the barbs seem to be hardly "pronounced" enough. Perhaps this is an unfinished specimen.

FIG. 101. ($\frac{3}{4}$ Size.)

In Fig. 101 we have also three barbs instead of one as in Fig. 99, and a hole in the same relative position. This specimen is not so well finished as the former.

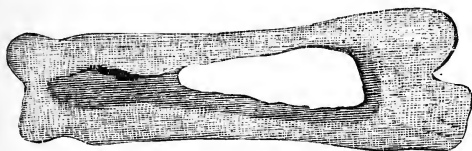


FIG. 102. (Full Size.)

Bones ground down, as in Fig. 102, are frequently found in ossuaries and on old camping grounds. They are popularly known as whistles, and I have heard of persons who are able to produce a loud and shrill sound from them. Generally these bones are ground quite flat on both sides, but more on one side than on the other, the cavity of the bone presenting the wider

opening on the former side. Sometimes, however, only one side is ground flat, and the other is worked down angularly at each end until the hollow of the bone is met. Those shaped in this way certainly *look* more like whistles, but I have never been able to produce any sound from them.

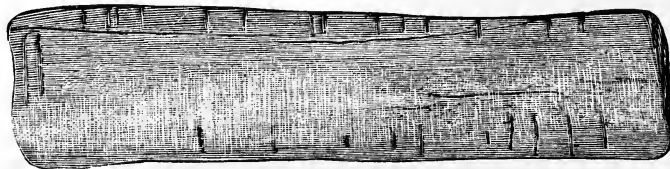


FIG. 103. (Full Size.)

Lacking anything in the form of literature, and not having an extensive system of numeration, the Indians had to resort to such expedients as wampum belts for the preservation of important national or tribal records, whilst for those of a more personal

character, *e. g.*, number of days' or of moons' travel; of braves in a party; of prisoners captured, or of scalps taken, they resorted to the simple expedient of notching the



FIG. 104. (Full Size.)

angular edges of short pieces of bone, which were easily carried on a string. Figs. 103 and 104 are good examples of these "tally bones." Both are from lot 34, con. 7 (Dwyer's farm), Beverly.

Except as an article of adornment, one can hardly imagine any use for the diminutive oone mask, Fig. 105. The face has a convexity not well brought out in the illustration, and the back is correspondingly concave. The eye-holes are bored clear through. Loughed farm, Nottawasga.

It is seldom that we find any attempt to represent the whole human form, but this has been done in Fig. 106 in so far as the material would permit. In slight relief the right hand covers the left breast, and the left is crossed to the waist at the right side. The shape of the bone prevented any attempt to make feet. A small hole penetrates the neck from right to left, suggesting that it was worn as a pendant, either singly or with beads. This very interesting specimen of native art was presented to the Museum by Mr. Jas. Rae, of Beverly. [The engraver has reversed the position of the hands.]

Our collection contains a considerable variety of articles made from bone besides those named. Bones of the larger birds were often formed into necklaces composed of pieces from half an inch to four inches long.



FIG. 105.
(Full Size.)



FIG. 106.
(Full Size.)

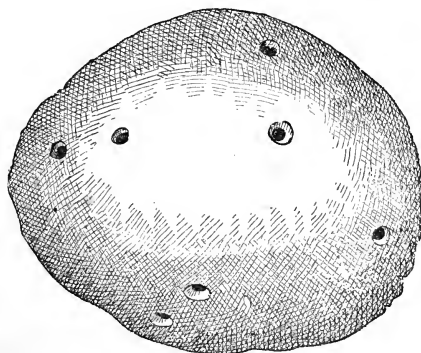


FIG. 107. ($\frac{1}{4}$ Size.)

Portions of the human skull were in request mainly for ornamental purposes. Fig. 107 is perforated with seven holes, and may have been interlaced with brightly dyed grasses, feathers or porcupine quills, and thus worn on the breast, or it may have formed a base of adornment for head gear. The holes have been bored from the inside. Dwyer collection.

We have another piece of skull somewhat larger, worked to a smooth edge all round, without any holes, for a wonder. This was probably used as a cup. It formed part of Mr. Stewart's collection and was found at Aurora.

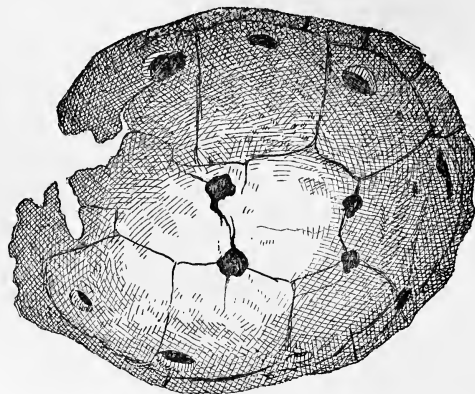


FIG. 108. ($\frac{1}{4}$ Size.)

A turtle shell, Fig. 108, was found on the Dwyer farm, Beverly. It is perforated with fourteen holes—ten near the margin of the plates and four on the crown.

COPPER.

I am very sorry that want of time has prevented Principal Wilson, of Toronto University College, from furnishing a few notes on our copper implements, according to his original intention. As an authority on this subject Dr. Wilson is well known, and we can only hope that should another opportunity of this kind present itself he may be able to give us the benefit of his wide reading on such an extremely interesting department of this subject.

It is pretty well known that the aborigines mined, in a rude way, the native copper which is found so abundantly on the north shore of Lake Superior, and that they succeeded in hammering portions of it into form, mainly as weapons, cutting tools, or personal ornaments. It is extremely doubtful that they employed heat in any way for the purpose, although many writers are inclined to adopt this view. That they may have employed grooves, or what blacksmiths call "swages," in wood or stone into which the metal was pounded to give it the required form is not unlikely. Still, it is reasonable to suppose that, in such an event, some of these swage-stones would have been discovered, and I am not aware that this is the case.

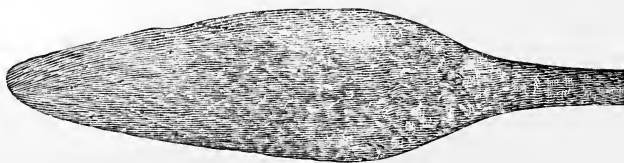


FIG. 109. ($\frac{1}{4}$ Size.)

Figs. 109, 110, and 111 were evidently used as spear or lance heads. As with flint heads, it will be noticed that there are various ways of fastening to the shaft. In Fig.

109 there is a clearly marked neck for deep insertion. In Fig. 110 the body of the weapon merges imperceptibly into a neck, which must also have required a deep seat for



FIG. 110. ($\frac{1}{4}$ Size.)



FIG. 111. ($\frac{1}{4}$ Size.)

attachment; but in Fig. 111 we have a mode of fastening very much like what we find in most similar weapons of stone.

Fig. 109 was found near Brantford, Fig. 110 in the township of Caradoc, and Fig. 111 unknown, but in Ontario.

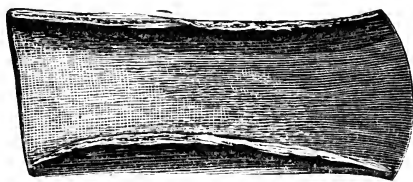


FIG. 112. ($\frac{1}{4}$ Size.)

Fig. 112 is an axe or an adze or a chisel. It is stoutly made, has a good edge, and is formed (like Fig. 115) with a socket to receive a handle. The outer or convex side shows no signs of hammering, but rather gives color to the swage theory. This well-formed implement was found in Manitoulin, and was presented to the Institute by Mr. Yellowlees, who is a resident of the island.

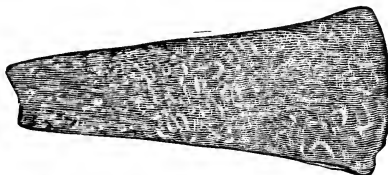


FIG. 113. ($\frac{1}{4}$ Size.)

Fig. 113 was found by Mr. C. A. See in the Tremont Park Mound on Tidd's Island. It has flat sides and square edges, and is made for fastening to a handle by means of thongs, or for insertion in a hole at the end of a handle. It is evidently a tomahawk.

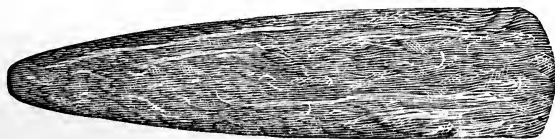


FIG. 114. ($\frac{1}{4}$ Size.)

One of the most elegantly formed copper relics in our collection is that numbered 114. It is more of an adze or chisel than an axe, being sharpened to bring the cutting

edge wholly to one side. It is very symmetrically shaped, and the sides are flat; but the edges are rounded, suggesting the use of this tool directly in the hand. Compared with its other dimensions, this specimen is comparatively thin.

It was found by Mr. J. Humphrey within a short distance of his dwelling-house, on the farm lot 6, concession 2, in the township of Beverly.



FIG. 115. ($\frac{1}{4}$ Size.)

Fig. 115 is supplied with a well-formed socket, which is fully one-third of the whole length. The inside as seen in the cut, is very much corroded, but the opposite is perfectly smooth, and the blade portion has been hammered so as to leave a ridge in the middle throughout its entire length. It was found "north-east of Toronto."

The formation of a socket marks a very decided step in the adaptation of means to an end.



FIG. 116. ($\frac{1}{4}$ Size.)

Fig. 116 is much corroded, but shows unmistakable signs of workmanship. The locality where found is not known; all the foregoing (except as noted) were procured from Mr. J. W. Stewart.

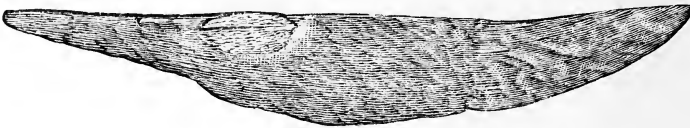


FIG. 117. ($\frac{1}{4}$ Size.)

A knife is suggested by the shape of Fig. 117, and the shank is evidently made for insertion in a handle of some sort, and one is led to suspect European influence.

A much heavier and more clumsily shaped implement, in general form resembling the Tidd's Island tomahawk, was found near Brantford, and is now in our collection.

We have also a few specimens of copper bracelets. These were often made either by procuring native metal in "leaf" condition, or by pounding it very thin, then cutting it into strips and bending the edges over as if to make a tube, after which it was curved to form a single or double coil.

One of our bracelet specimens is made from solid metal.

Copper beads were fashioned in the same manner and were from one-fourth to three-fourths of an inch long. I collected a number of these from the Tidd's Island Mound, and, what was of more value, a piece of hide, perhaps a portion of belt or head-dress, which had been ornamented with them. Some of the beads were still lying on the material they had adorned, and the method of fastening may be clearly seen.

Finders of copper implements and weapons should refrain from making any attempt to clean or sharpen them, as no good end is thereby attained, whereas any operation having this object in view only gives the article a suspiciously modern appearance.

MODERN SPECIMENS.

Mr. M. M. Fenwick, B. A., Head Master of the Farmersville High School, and F. F. Payne, Esq., have each presented the museum with a number of specimens that will prove valuable for comparative purposes.

The contribution of the former gentleman consists of wearing apparel, ornaments and weapons in use among the Arouay Indians of British Guiana; and the latter of several suits of Eskimo clothing, two Kayak models and a number of other valuable articles.

A donation of \$10 from President Vandermissen was expended in the purchase of specimens.

The following report by Mr. A. F. Hunter is interesting. The writer has gone over some portions of Simcoe County with considerable care, and his estimate of the number of villages and ossuaries, indicates that a large Indian population formerly occupied that part of our Province.

Mr. Hunter's general remarks have rendered it unnecessary for me to refer further to the points involved, more especially as the space at our command is limited.

VILLAGES.

According to the Jesuits, there were in the year 1639 thirty-two inhabited villages of the Hurons in the small territory between Lake Simcoe and Georgian Bay. There is no reason to doubt the accuracy of the Jesuits' statement, but we have located the sites of upwards of one hundred Huron villages within that area. All these, however, were not occupied at the same time, as the remains show. Some had evidently been abandoned before the arrival of the French, because all research has failed to reveal any traces of French intercourse; while other sites yield abundant evidence of the presence of French traders. The Hurons were incessantly harassed by hostile tribes, and were compelled to shift their habitations from time to time. Their filthy domestic habits also rendered it impossible for them to remain long in one place. They were thus obliged to lead a half nomadic life, although they were quite stationary when compared with Chippewas, Ottawas, and the other existing tribes. And hence it came that only a few of the villages, whose remains are still traceable, were occupied at the time of the Jesuit census.

The sites of nearly all these villages are marked by artificial depressions and elevations of the surface of the ground, ashes and *debris* at some distance below the surface, stone implements, fragments of pottery in great abundance, besides many other relics. Articles of early French manufacture are often found. These villages were of various sizes, ranging from two or three lodges to extensive hamlets. The largest site known to us is in the northern part of the township of Oro; it covers an area of more than fifteen acres. Many of them were palisaded; but nearly all traces of fortification have been obliterated, owing to the great length of time that had elapsed since they were deserted. In one instance—a village site in the township of Flos—we observed the remains of stone fortification and mound-building without any collateral traces of French intercourse. A large ossuary near it contained no articles of French manufacture when it was excavated in the year 1882. All the Huron villages were situated on elevated ground where the soil is light, but close to a supply of fresh water; and in many cases we have been able to locate a chain of villages lying along a particular trail, whose direction depended on the physical features of the region.

The fortified missions of the Jesuits are still traceable—Ste. Marie on the Wye, Ste. Marie on Christian Island, Ste. Jean Baptiste, and a few others. The sites of Wenrio, Ste. Marie, Ste. Louis, Ste. Ignace, and other mission posts were minutely examined by Dr. Tache, as well as by Rev. Father Laboureau, of Penetanguishene, who has also examined many other sites with interesting results.

OSSUARIES.

With many of the more important villages in the Huron country there are associated ossuaries, or bone-pits. The number of these, discovered and undiscovered, has been variously estimated; more than one hundred and fifty have already been excavated by different persons, but chiefly by the farmers. As to the number of skeletons in each pit, a great diversity exists. The ossuary of average size contains about three hundred, but a few have been found in the townships of Tay and Tiny containing more than a thousand, while others contain less than a dozen. These, however, are exceptional cases. Light, sandy soil was almost invariably selected for the pits, clearly because the Indians had no good implements for digging heavy soils.

The Huron mode of burial resembled in some respects that of the Sioux, Blackfeet, and other Northwest tribes of our own day. The body was placed after death upon a scaffold supported by four upright poles. At regular intervals of time, varying from seven to twelve years, (frequently ten) the skeletons were collected from the scaffolds and buried in a large pit dug for the purpose.

Brebœuf's famous account of the burial ceremony (*Relations des Jesuites*, 1636), has been fully confirmed by excavation of the ossuaries. In most cases, the small bones of the feet and hands, and such as could easily be blown from the scaffolds or removed by carrion-eating fowls, are not to be found, showing that the bodies were exposed on scaffolds before interment. In a few instances we found some large bones of the limbs (femora, tibia, humeri) arranged in bundles of a size convenient for carrying. Although the thongs which bound them together had entirely perished, the surrounding mould had kept them in their original position. Further proof of the strange mode of burial among the Hurons exists in the fact that the dimensions of the pit are almost always less than would have been required for dead bodies. No definite arrangement of the bones in a pit can be traced; although we sometimes observed that all the skulls had been placed with the face downwards—an arrangement by no means universally adopted. The few ossuaries, in which entire bodies were buried together, can easily be distinguished from the prevailing variety. When buried in this way, as sometimes occurred after a massacre, it was usual to arrange the bodies regularly with their feet towards the centre of the pit.

After the arrival of the French, brass kettles were often buried with the bones. These were purposely damaged at the time of interment by having a large hole knocked in the bottom with a tomahawk. As many as twenty of these kettles have been found in some ossuaries, especially those of the townships of Medonte. Besides kettles, they buried copper and glass beads, wampum, pipes, pottery, copper and stone axes, chisels, and in fact almost everything to be found in a Huron household.

Ontario Provincial Museum, Toronto

2nd ^{Archaeological} ANNUAL REPORT

OF THE

CANADIAN INSTITUTE

SESSION 1887-8.

BEING PART OF APPENDIX L.

TO THE

REPORT OF THE MINISTER OF EDUCATION, ONTARIO,

1888.

Printed by Order of the Legislative Assembly.



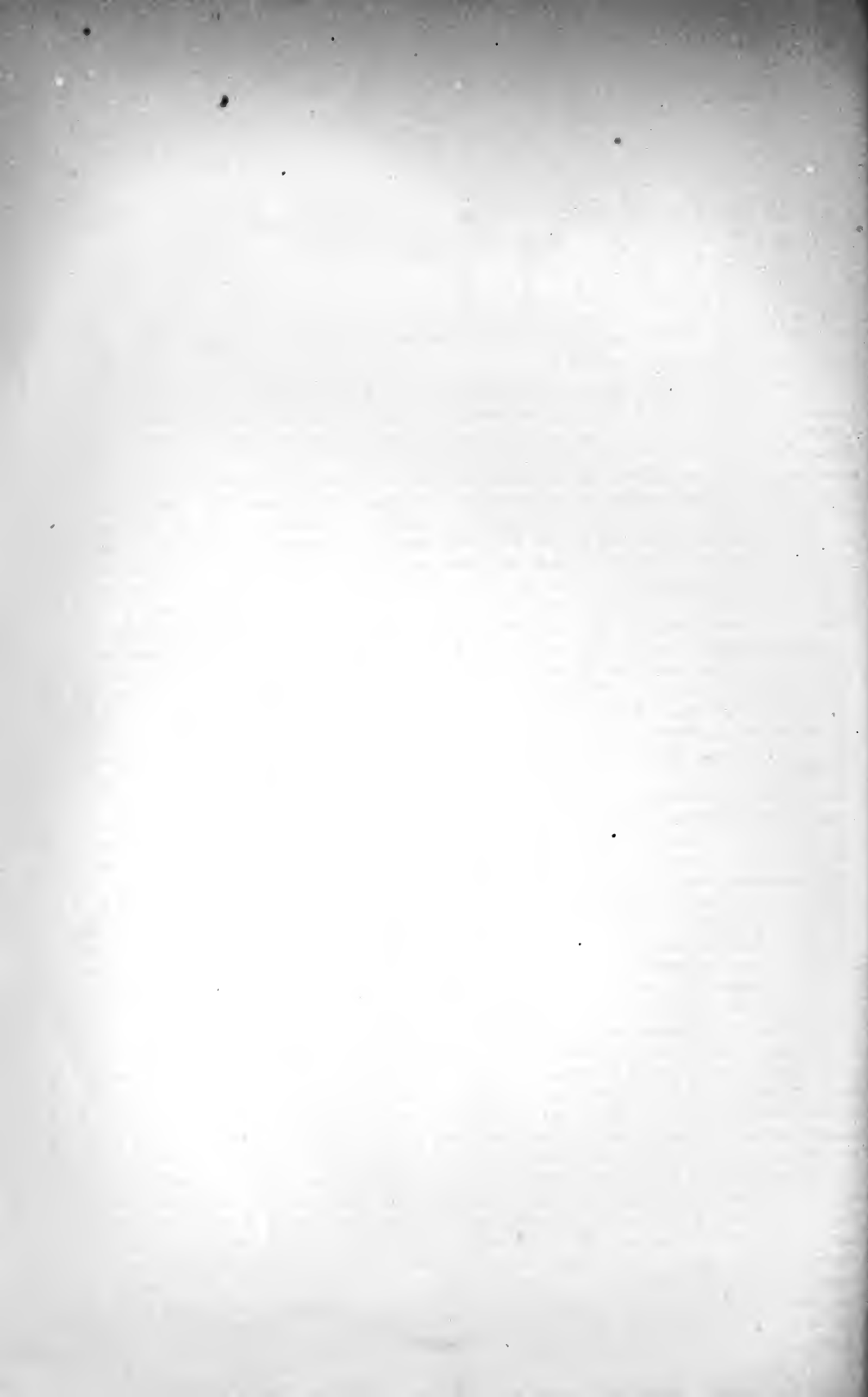
TORONTO :

PRINTED BY WARWICK & SONS, 68 & 70 FRONT STREET WEST.
1889.



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*ANNUAL REPORT OF THE COUNCIL OF THE CANADIAN INSTITUTE—
SESSION, 1887-88.*

The Council of the Canadian Institute has the honour to lay before the members its Thirty-Ninth Annual Report :

Early in the past Session the President, Mr. W. H. Vander Smissen, to whose exertions so much of the increased activity and prosperity of the Institute were due, was unfortunately obliged, through the pressure of other duties, to resign, and the Vice-President being at the time absent in Europe, Mr. Charles Carpmael was elected to fill the vacant position. Twenty-six meetings, including the annual conversazione, have been held during the past session, at which thirty-nine papers have been read, in addition to fifty read at Section meetings. The aggregate number of papers read thus exceeds by seventeen that of the preceding year, when there were but seventy-two, and this number was again largely in excess of that of any previous year in the history of the Institute. The character of these communications has been fully equal to the standard of previous years, and the range of subjects (as shown in the appendix) has been unusually large. The average attendance at the regular weekly meetings has also shown an increase. It is also satisfactory to notice that there has been a considerable increase in the number of members who have made use of the reading-room. On the occasion of the annual conversazione, the Museum of Natural History and Archaeology was opened, and there was an excellent exhibition of photographs by the Photographic Section. There was a large attendance of members and their friends. The Archæological collection is already extensive, and has been admirably arranged by the Curator, to whom the Institute is greatly indebted for his exertions, both in collecting specimens and in carefully classifying them. The Archæological Report, which has been bound up with the Annual Report of the Institute for the year 1886-87, is already in the hands of the members, and contains an account of what has been done by the Institute down to December last, in this field. Our exertions to add to our collection continue unabated, and the Council has thankfully to acknowledge the grant of \$1,000 by the Ontario Government, which will enable us to devote a considerable sum, as in the past year, to this purpose. The number of books and pamphlets received during the year, is shown in Appendix III, to have continued to increase, and to have been considerably more than eight times as large as it was five years ago. A pamphlet has been prepared by Mr. Sandford Fleming, on the subject of "Time Reckoning," and issued by the Institute for the purpose of introducing the subject, in the educational institutions throughout the Dominion. In this pamphlet the principles of time-reckoning are set forth, with special reference to the recommendations of the Washington conference on the subject. A deputation of the Council of the Institute has waited upon the Minister of Education of the Province of Ontario, and acting on the recommendation of this deputation, the Minister has requested to be furnished with five hundred copies of the pamphlet, for distribution to the head masters of the various high schools and collegiate institutes in the Province. The Council has also sent copies of the pamphlet to the Ministers of Education in the other Provinces. It will be remembered that it was a paper by Mr. Sandford Fleming, read before this Institute, copies of which were forwarded with a memorial from the Institute to the Marquess of Lorne, then Governor-General of the Dominion of Canada, and through him to the British Government, and to various foreign scientific institutions, which first called prominent attention throughout the world to this subject. The views then advanced by Mr. Sandford Fleming, were very generally accepted by scientific men in all civilized nations, the subject was discussed at various congresses, and in October, 1884, a conference was held at Washington on the invitation of the President of the United States, at which twenty-five nations were represented, and the proposed reforms were by it recommended for adoption by all

nations. Your Council has every reason to hope that the pamphlet now issued will facilitate the introduction of these reforms in Canada. A memorial was also forwarded to the Minister of the Interior in connection with Geological and Mining affairs, and in reply a certified copy of a report of a committee of the Honorable the Privy Council, approved by his Excellency the Governor-General in Council on the 28th September, 1887, has been received, in which it is set forth that a Division of the Geological Branch of the Interior has recently been organized by the appointment to the permanent staff of the Survey, of a Mining Engineer and a Mining Geologist, to examine and report upon the mining industries of the Dominion, to collect mineral statistics, and otherwise to work out the economic geology of our mining districts. While congratulating the Institute on the increase in membership and activity, the Council feels it necessary to impress upon the members that much has yet to be done in the direction of the further extension of the Museum and Library. Our accommodation in these is still inadequate, and additional shelving and cases are required. The balance shown on our balance sheet is already expended. It therefore urges upon the members the necessity of supporting the present efforts of the Committee of Ways and Means by every means in their power, by contributions, by presenting the claims of the Institute to the public in every possible way, and by endeavoring to obtain new members. During the past year the Institute has lost by death one of its most distinguished honorary members, Prof. Balfour Stewart, of Owen's College, Manchester. Balfour Stewart's name was first prominently brought before the public by his researches on radiant heat, published in 1858. In 1859 he was appointed Director of Kew Observatory, and held this post until 1870, when he was appointed Professor of Physics at Owen's College, Manchester. He died of apoplexy on December 18, 1887.

CHARLES CARPMAEL,
President.

APPENDIX I.

Membership.

Number of Members April 1, 1887	290
Withdrawals and deaths during the year	27

263

Elected during the year	56
-------------------------------	----

Total members, April 1, 1888.....	319
-----------------------------------	-----

Composed of :

Honorary Members.....	6
Life Members	12
Ordinary Members.....	301

Total..... 319

Associates.....	54
-----------------	----

APPENDIX II.

Treasurer in Account with the Canadian Institute for the Year Ending March 31st, 1888.

To Summary :—

" Balance on hand	\$56 40
" Annual Subscriptions	909 75
" Rents	206 50
" Government Grant	1,000 00
" Journals sold	7 15
" Periodicals sold	38 80
" Donation	2 50
" Interest	1 14
" Proceeds of Note	200 00
	<u>\$2,422 24</u>

By Summary :—

" Salaries	\$314 00
" Printing Journal	813 27
" " Miscellaneous	59 00
" Stationery	2 00
" Postage	78 85
" Freight and Express Charges	13 53
" Repairs	36 64
" Gas	40 75
" Water	24 00
" Periodicals	120 76
" Furniture	11 15
" Housekeeping	43 80
" Fuel	20 75
" Insurance	52 00
" Blinds	10 00
" Gas Lights	19 20
" Taxes	9 75
" Journals purchased	2 50
" City Directory	3 00
" Chemicals for Museum	8 53
" Grant to Photographic Section	40 00
" Sundries	8 00
" Interest	218 00
" Promissory Note	300 00
" Balance, Imperial Bank	163 56
" " on hand	9 20
	<u>\$2,422 24</u>

Bank Balance as per Bank Book	\$273 67
Balance as above	\$163 56
" for Building Fund	110 11
	<u>273 67</u>

Building Account.

1887.

April 1, to Balance	\$662 83
---------------------------	----------

1888.

April 29th, By Carpenters Contract, Certificate No. 3, ..	\$32 75
May 5th, " Painters " " " 1, ..	113 40
Nov. 18th, " Plasterers " " " 1, ..	41 80
Oct. 16th, " Roofers " " " 1, ..	25 00
May 17th, " Contract for Cases	\$ 50 00
Oct. 24th, " "	75 00
" "	100 00
Nov. 16th, " "	65 00
	<hr/> 290 98
Dec. 16th, " Law Expenses	3 64

1888.

Jan. 13th, " Carpenters Account for Alterations and Shelves	45 15
" Balance in Imperial Bank	110 11
	<hr/> \$662 83

Archæological Grant.

To Grant, 1887	\$1,000 00
By Grant to Fort Rouille monument	\$200 00
" Purchase of Specimens	235 50
" Engraving of Specimens for Report	134 55
" Travelling expenses, sundry expenses and remuneration of the Curator	394 50
" Balance on hand	35 45
	<hr/> \$1,000 00

(Signed)

W. A. DOUGLASS, }	<i>Auditors.</i>
ALFRED BAKER, }	

Assets.

Building	\$11,500 00
Warehouse	720 00
Ground	3,000 00
Library	5,500 00
Specimens	2,000 00
Personal property	1,000 00
	<hr/> \$23,720 00

Liabilities.

Mortgage No. 1, due 1892	\$3,000 00
" 2, " 1892	1,000 00
Note discounted	200 00
Balance in favour of the Institute	19,520 00
	<hr/> \$23,720 00

APPENDIX III.

Donations and Exchanges.—Books and Pamphlets received from April 1st, 1887, to April 1st, 1888 :—From Canada, 229 ; United States, 503 ; Great Britain and Ireland, 466 ; India and Australasia, 90 ; all other countries, 1,045. Total, 2,333.

Total number received in 1882-3, 280 ; in 1883-4, 800 ; in 1884-5, 730 ; in 1885-6, 1,502 ; in 1886-7, 2,230 ; in 1887-8, 2,333.

APPENDIX IV.

The number of Societies and Publications with which the Institute exchanges is 396

APPENDIX V.

The Periodicals subscribed for are the same as last year, with the addition of the *Amateur Photographer*.

APPENDIX VI

Classification of papers read by subjects :—Anthropology, 3 ; Archæology, 1 ; Biology, 2 ; Botany, 1 ; Chemistry, 1 ; Economics, 4 ; Geology, 4 ; Geography, 2 ; Jurisprudence, 1 ; Medicine, 1 ; Metallurgy, 1 ; Meteorology, 1 ; Philology, 4 ; Political Science, 3 ; Psychology, 1 ; Sociology, 1 ; Solar Physics, 1 ; Telegraphy and Telephony, 1 ; Zoology, 4 ; Miscellaneous, 2. Total, 39.

Read at Section Meetings :—Architectural Section, 12 ; Biological Section, 22 ; Geological and Mining Section, 6 ; Philological Section, 10. Total, 50.

REPORTS OF SECTIONS OF THE CANADIAN INSTITUTE, 1887-8.

(1) *Report of the Biological Section.*

The Biological Section of the Canadian Institute has held its regular meetings on the 1st and 3rd Mondays in every month during the past session. At each of these meetings one or more original papers have been read on a variety of topics, as may be seen on reference to the programmes issued.

The "Microscope Fund" has, through the liberality of a few members and their friends, been sufficiently augmented to allow of the purchase of a first-class instrument, now expected to arrive in a few days.

Yours faithfully,

W. E. MIDDLETON.

Schedule of Papers Read in Biological Section 1887-8.

May	2	1887,	"The English Rabbit as an Agricultural Pest,"	William Brodie
	16,	"	"The Fresh Water Hydra,"	W. E. Middleton
		"	"The Coleoptera of the N.W.T.,"	Wm. Brodie
June	20,	"	"The Acclimatization of the English Goldfinch,"	Wm. Brodie
Oct.	3,	"	"Canadian Ants,"	Wm. Brodie
	17,	"	"Canadian Gall Insects,"	Wm. Brodie
Nov.	7,	"	"Foreign Ants,"	W. E. Middleton
	21,	"	"Hyphantria Cunea,"	Wm. Brodie
Dec.	5,	"	"The Brownian Movement,"	W. E. Middleton
		"	"Mind in Animals,"	Wm. Brodie
		"	"The Calamorpha Moth,"	Wm. Brodie
	19,	"	"Canadian Reptiles,"	J. B. Williams
Jan.	16,	1888,	"Planorbis Corpulentus,"	Wm. Brodie
		"	"Some Canadian Insects,"	Wm. Brodie
Feb.	6,	"	"Birds' Eggs,"	E. V. Rippon
		"	"Museum Collections and their Preservation,"	C. Armstrong
		"	"Certain Alleged Digestive Glands of Carnivorous Plants,"	W. E. Middleton
		"	"The English Sparrow,"	Dr. Garnier
	20,	"	"Chloroform,"	Wm. Brodie
March	5,	"	"Coleoptera of the N. W. T.," No. 2.	Wm. Brodie
April	2,	"	"Habits of Canadian Birds,"	E. E. Thompson
	16,	"	"The Echini,"	Rev. K. F. Junor
			(22 papers.)	

The Officers for the ensuing year are :—James H. Pearce, President ; W. E. Middleton, Secretary.

(2) Report of the Architectural Section.

The Architectural Section of the Canadian Institute has the honor to present its Second Annual Report :

Since our first report to the Canadian Institute we have held weekly meetings during the winter months, closing the first session of our existence on May 9th, 1887, and commencing the session of 1887-88 on October 11th.

The following papers and addresses were delivered before this section during the past year :

April	4th,	1887,	Mr. C. F. Wagner read a paper on "Carpentering."
	11th,	"	Mr. J. W. Gray read a paper on "The Doric Temple in its Constructive Aspect."
May	2nd,	"	Mr. Curry gave an address on "Plumbing," illustrated by drawings, showing correct and defective work.
Jan.	17th,	1888,	Mr. M. J. Hynes gave an address on the subject of "Terra Cotta."
	24th,	"	Mr. Frank Douglas read a paper on "Renaissance Architecture."
	31st,	"	Mr. J. B. Vick gave an address on "Stone Cutting and Stone Setting."
Feb.	7th,	"	Mr. A. G. Gregg read a paper on "Architectural Lessons from the Human Figure."
	14th,	"	Mr. Jas. Wright gave an address on "Plastering."
	28th,	"	Mr. Wm. Simpson gave an address on "Joinery."
Mar.	20th,	"	Mr. R. J. Hovenden gave an address on "Painting."
	27th,	"	Mr. R. J. Hovenden gave an address on "The Manufacture; Adulteration and Application of Colors."
April	10th,	"	Mr. Wm. Phillips gave an address on "House Drainage."

The officers for the ensuing year are: Chairman, A. F. Wickson; Vice-Chairman, R. Dawson; Treasurer, C. D. Lennox; Secretary, J. F. Brown; Committee of Management, John Howard and G. F. W. Price.

ROBERT DAWSON,
Chairman.

TORONTO, April 10th, 1888.

(3) *Report of the Philological Section.*

GENTLEMEN,—In accordance with the constitution of the Canadian Institute I beg to submit the following report of the work of the Philological Section for the year ending March 31st, 1888:

The number of members on the roll is eighteen. Since the 31st March, 1887, the section has held eleven meetings. Since December 13th, 1887, the meetings of the section have taken place at twenty o'clock on the second and fourth Tuesdays in each month of the session of the Institute.

At the meeting of November 14th, 1887, it was decided that the section should take up the study of "Phonetics," and the work of the members has to a great extent been the pursuance of such study.

At the meeting of January 10th, 1887, Mr. George E. Shaw, B.A., resigned the position of Secretary of the Section, to which office Mr. A. F. Chamberlain, B.A., was appointed.

During the year the following papers have been read before the Section:

- (1) April 11th, 1887, "The Science of Language in Popular Education," by the Rev. J. F. McCurdy, Ph.D.
- (2) 25th, " "Umbrian Inscriptions," by the Rev. Dr. McNish.
- (3) May 9th, " "An International Alphabet with a System of Shorthand," by M. L. Rouse.
- (4) Dec. 13th, " "The Organs of Speech, with Special Reference to the Production of Speech in the Larynx," by Dr. G. R. McDonagh.
- (5) Jan. 10th, 1888, "Throat Sounds," by the Rev. J. F. McCurdy, Ph.D.
- (6) 24th, " "Portuguese Nasal Sounds," by G. E. Shaw, B.A.
- (7) Mar. 27th, " "A Contribution to the Study of the Franco-Canadian Dialect," by Jno. Squair, B.A.

(Signed)

A. F. CHAMBERLAIN,
Secretary Philol. Sect. C. I.

TORONTO, April 7th, 1888.

(4) *Report of the Geological and Mining Section.*

This Section of the Institute was organized at a meeting held on the 20th of April, 1887, and its Regulations and By-laws were approved by the Council on the 30th of the same month. The names of sixteen members of the Institute are enrolled on the minute book as members of the Section.

Besides the inaugural meeting, six meetings of the Section have been held during the year. The attention of the Section was called soon after its formation to the want of statistics and other trustworthy information relating to the mining and metallurgical operations carried on in the Dominion, and the desirableness of the public being put in possession of such information as soon after the close of each year as possible. A memorial

setting forth these views was prepared by the Section, approved by the Institute, and forwarded to the Dominion Government in May of last year. In answer to this memorial the Government replied on the 28th September, that an Order in Council was passed creating a division of the Geological Survey to attend to these matters. Furthermore, in reply to an interview had with the Deputy-Minister of the Interior by an authorized sub-committee of the Section, consisting of the chairman and secretary, the Minister stated: (1) That the officers of the division referred to have been appointed; (2) That the publication of statistics and information by this division will hereafter be much more prompt after the close of each year than hitherto; (3) That the Dominion Government has co-operated and will co-operate with the Provincial Governments in the direction of acquiring mining and metallurgical information; and (4) That the Government is considering the publication of all reports of the Geological Survey relating to mining and metallurgy in Canada since 1863 in connection with the work of the forthcoming census.

A select committee of the Section has also prepared an exhaustive report, with tables of exports and imports, on the minerals and raw metallurgical products of the United Kingdom, the United States, Canada and the other Colonies of the Empire, more especially in regard to the trade of the several countries with each other.

In addition to the foregoing work accomplished by the Section, papers were read at the several meetings as follows:

1. "On the Mineral Production of Canada in 1886-7," by Wm. Hamilton Merritt.
2. "On Iron and other Ores of Ontario," by James T. B. Ives.
3. "On certain Lacustrine Deposits and their Economic Values," by Arthur Harvey.
4. "On the Physical Aspects of Iron Smelting," by Samuel D. Mills, of St. Ignace, Michigan.
5. "Notes on Thunder Bay Silver Ores," by Robert B. Headley, of Port Arthur.
6. "Notes on New Jersey Iron Ores," by Wm. Hamilton Merritt.

Two officers elected at the organization of the Section, viz.: Alexander McNabb, Vice-Chairman; and J. T. B. Ives, Curator, having resigned in consequence of leaving the country, their places were filled by the appointment thereto of Arthur Harvey and David Boyle, respectively.

The following officers of the Section have been elected for the Institute year, beginning May 1st, 1888.

Chairman, William Hamilton Merritt; Vice-Chairman, Arthur Harvey; Secretary, A. Blue; Executive Committee, John Notman, A. Elvins, R. W. Phipps, Dr. P. H. Bryce and A. F. Chamberlain.

A. BLUE,
Secretary.

Resolution adopted unanimously by the Geological and Mining Section of the Canadian Institute, at Toronto, on the 26th April, 1888:

Whereas, the late Hon. Thomas White, Minister of the Interior, for years recognized the importance of the mineral and metallurgical interests of the Dominion of Canada, and previous to taking office in the Government ably advocated through the press the desirability of more attention being paid to their development; and whereas, since taking office he has reorganized the Geological Survey so that a division of it may accomplish a practical utility in keeping a record of mining and metallurgical development in Canada, and has also made important and beneficial changes in our mining laws; Be it resolved, that, while expressing the most profound sorrow at his death, the Geological and Mining Section of the Canadian Institute desires to bear record to the great benefits accomplished by the deceased during his short term of office for the mineral interests of the Dominion of Canada; and that a copy of this resolution be forwarded to his son, Mr. Robert White.

TORONTO, April 26th, 1888.

ARCHÆOLOGICAL REPORT.

To the President and Council of the Canadian Institute, Toronto :

GENTLEMEN,—Absence from Ontario during the whole of last summer prevented my doing anything archæologically during the year from a strictly provincial point of view, but I am pleased to be able to inform you that the work of collecting at least, has not for this reason been a total blank, as during my residence of nearly five months in the United States I was enabled to gather a considerable number of specimens, many of which differ considerably from the types found in this country, and some being totally unlike anything met with in Ontario.

Having spent all my time in Cincinnati, which may be regarded as the centre of that region which contains so many evidences of the ancient mound-builders' peculiar art, I was afforded several opportunities of gaining such knowledge as may prove serviceable in future should any similar works be discovered within our own territory.

I have especially in this connection to thank Drs. Craig and Collins, of Lawrenceburg, Indiana, for their extreme kindness and courtesy to me, both personally and as your representative. These gentlemen not only conducted me to interesting localities, but they secured for me the rare permission to open a number of mounds and to appropriate for the museum of the Institute anything of value that might be found therein. I regret to state, however, that owing to the unusual wetness of the season our digging intentions were frustrated on three or four occasions, until eventually the weather became too cold. Our gratitude is due also to Mr. Robt. Clarke, publisher, Cincinnati, for casts of the famous Cincinnati or Gest, and Waverly or Clarke "tablets," the originals of which are, in many respects, among the most interesting relics of pre-historic man that have been found in North America. Within recent years one or two writers have attempted to throw doubt upon the genuine character of the former tablet, but the weight of testimony warrants the full belief that the relic in question was actually taken from a mound near the north-east corner of Fifth and Mound Streets, Cincinnati, in November, 1841, and since that time it has remained the property of Mr. Gest, who owned a portion of the ground from which it was unearthed.

Mr. Robert Clarke, the custodian of this precious relic, in his pamphlet entitled "The Pre-historic Remains which were found on the Site of the City of Cincinnati, with a Vindication of the Cincinnati Tablet," has carefully collected all the evidence for and against the genuineness of the "find," and has succeeded in showing conclusively that there is no room for a particle of doubt regarding the authenticity of the tablet in question.

With regard to the Clarke Tablet we learn (quoting from the Journal of the Cincinnati Society of Natural History for January, 1887) that it "was discovered March 12, 1885, by Mr. J. P. MacLean in the collection of Dr. W. R. Hurst, of Piketon, Ohio, was obtained of him and disposed of to Mr. Clarke. . . . The history of the tablet, as given by Dr. Hurst to Mr. MacLean, is as follows:—'The tablet was taken from a mound on the farm of Abraham Cutlip, about one mile south of Waverly and about three and a half miles north of Piketon, about March, 1872. It was found about three feet from the bottom of the mound on the north side by Abraham Cutlip and David Allan, who were cutting away the mound. Dr. Hurst obtained it from them. The mound was on the second bottom of the river, had been fifteen to twenty feet high, but had from time to time been cut away, so that it was only about ten feet high at the time of the excavation. It was composed of clay. With the tablet were found darts, badges and human bones.' "

Another, called the Richardson Tablet, similar in design to those known as the Cincinnati and Clarke Tablets, was found "on the 31st day of January, 1879, in excavating a mound on the road leading from Wilmington, Ohio, to Harveysburg." An attempt has been made to give to all of these a phallic interpretation, and one writer professes to have discovered in the Cincinnati Tablet a system of time computation as applied to foetal life.

However much or little of such symbolization the tablets are capable of bearing, the archaeological student of Ontario will now have an opportunity to examine for himself in Toronto, with as much satisfaction as if he had the originals before him.

Of the other specimens I procured when away, the following may be enumerated :—

From North Carolina—Three large flints, one fragment of a steatite dish, four fragments of pottery, one pure quartz arrow-head, and thirty-five other arrowheads.

From Georgia—Fourteen arrow-points, mostly of quartz.

From West Virginia—Two smoothly wrought and peculiarly formed implements, one steatite ornament perforated with two holes, one small discoidal gambling (?) stone and four war arrowheads.

From Tennessee—One stone axe and eight flints.

From Mississippi—Seven war arrowheads.

From Alabama—Two rudely-formed axes, one spear-head and eighteen arrowheads of various kinds.

From Kentucky—Two pestles, four grooved axes, five plain axes, one hammer stone, one stone ornament, two fragments of pottery, twelve pieces of corn cobs and some burnt corn, two drills and eighty-six flints of great variety.

From Ohio—Five stone axes, two bone implements, three bone beads, two perforated unio shells, three smoothly-finished stone implements of unknown purpose, one perforated slate tablet, one small discoidal stone, one copper button-like specimen, three flint cores and twenty-four flints of different sizes and shapes.

From Indiana—Eight grooved axes, thirteen plain axes, nine discoidal stones, four fragments of pottery, one partly made axe or hammer, one perforated slate tablet or gorget, two paint-cup stones (?), five flint drills and thirty-three arrowheads. For many of these American specimens we are indebted to Miss Maria Tipton, of Paris, Kentucky; Mr. E. T. Hummell, of Decatur, Alabama; Mr. L. Deming, of Cincinnati; the Brothers of St. Mary's Institute, Dayton, Ohio; and to others whose names are mentioned in what follows.

From Arkansas mounds—Thirteen whole or nearly whole specimens of pottery vessels, which formed part of a collection made by Mr. C. W. Riggs, of Cincinnati, during the past twelve years. Also five ditto from the collection of Mr. W. K. Moorehead.

Owing to the extreme difficulty of procuring perfect, or comparatively perfect, specimens of earthenware, "modern antiquities" are frequently prepared and sold to the unsuspecting, most of whom are usually found among European tourists and travellers, and as the vessels in question were almost the only articles I procured involving any outlay, I was very careful to make inquiry relative to Mr. Riggs, his antecedents and reputation, the result in every case going to prove him thoroughly trustworthy in all respects. To private collectors and to directors of museums I can confidently recommend Mr. Riggs as not only a gentleman having the largest private collection for sale in the United States, but as one upon whom the most implicit confidence can be placed.

With two exceptions these are the only perfect specimens of earthenware in our collection, all the rest being mere shreds or fragments. Should we be able to secure good Ontario or Canadian pieces in the course of time, those will prove interesting and instructive by way of comparison, and in any event they will form an exceedingly valuable adjunct to our collection as illustrative of the work performed by a branch of the same people who were aboriginal in this country.

For more than a quarter of a century have our American scientific neighbors acted towards Ontario in a most friendly manner, visiting us frequently, carrying off to Washington and elsewhere every specimen worthy of preservation in their cabinets, and it seemed to me only fair even at this late day, to evince a spirit of good fellowship by way of reciprocity. It is therefore gratifying to state that acting upon this principle we have been able to add about five hundred objects of interest to the Provincial Archaeological Museum in connection with the Canadian Institute.

Shortly after the issue of our last report a meeting of the Provincial Land Surveyors was held in the Institute. An invitation having been extended to the members of the Association to inspect our cases, Mr. James Dickson, P.L.S., of Fenelon Falls, expressed

his pleasure to find that a collection was being made, at the same time informing Mr. Jas. Bain and myself that he had a number of good specimens which he had been saving for years to present to just such an institution as ours, and that he would gladly forward them as soon as he returned home. Mr. Dickson was true to his promise, and it was not long until he expressed to us sixteen axes (one of them measuring fully a foot in length and the others upwards of ten inches), a mortar stone used for grinding purposes, an immense flint weapon or tool, gracefully formed and measuring ten and a half inches long, two very good stone pipes, several clay pipes and fourteen fragments of pottery, with the usual markings.

Other members of the Association expressed their intention to aid the collection as soon as opportunity offered, and when the nature of surveyors' duties is taken into account, it is evident that gentlemen of their profession might do much in furtherance of our archaeological project.

About the same time also we received through Mr. John Notman, from a gentleman whose name was not ascertained, three portions of beavers' jaws with teeth, from a grave in Onentisati, Simcoe Co., two bone awls, one trumpet-mouthed pipe-head, and one of cylindrical form, all from the same locality, also two fragments of pottery from Ste. Marie, Simcoe Co.

Early in May, we received a small but valuable collection from the Pike Farm, Wolfe Island, through Dr. Dickson, of Kingston. During many years Wolfe Island has been a favourite hunting-ground for American collectors, and some of the best specimens in their museums are from this place. In several respects there is a marked difference between the materials and forms of implements found in the eastern portion of the Province as compared with those in the west, and the fine specimens procured through Dr. Dickson, added to those we got from Tidd's Island last year, are fairly representative of that section.

The Pike Farm collection consists of native copper beads, four heavy copper pendants, two small, pointed, copper instruments, two large stone axes (one of which is eleven and three-fourth inches long), one small axe, one small gouge, a slate implement (probably used for skinning purposes), sixteen unusually large flints, sixty-one arrow-heads, two small drills, two excellent stone tubes, three fragments of pottery, four slate tablets, perforated, and one rudely finished bead (?) of black material, flat and approximately circular.

Dr. Orr, of Maple, presented us with three good specimens from the township of Vaughan, viz. : a stone, partly formed in preparation for a pipe-head, a small mortar, of size and shape convenient for being used in the lap, and a small "banner-stone."

What is perhaps the most gracefully formed, and at the same time certainly the most capacious pipe in our collection, was presented to us last spring by Mr. Moon, of Madoc. It was found by a farmer near L. Moira or Hog Lake, within a short distance of the village of Madoc, about two years previously, the find being duly chronicled in the local paper.

From the Rev. Mr. Laboureau, of Penetanguishene, we have received a finger-ring made of brass, on the "seal" of which are engraved the letters I. H. S., in monogram form. It is probably the work of some old French *attaché* to one of those Huron missions, for which that portion of the country where the reverend gentleman is stationed, was so celebrated in the early history of Canada. The ring is contained in a small and neatly made case of recent Indian workmanship.

Only a few weeks ago we came into possession of one of the largest and best private collections in the Province, consisting of upwards of fourteen hundred pieces. Those were brought together by Mr. Wm. Matheson, of Lucan, in the county of Middlesex.

Apart from the extent of this collection, and the important fact that a record has been kept of all the principal articles, it is especially interesting as being so exhaustively illustrative of a limited area, nearly everything in it having been found within the townships of East and West Williams, Biddulph, Blanchard, and McGillivray. It is noticeable that pipes and bead-forms are scarce in this collection, as compared with those found further south and east, but this want is fully compensated by the unusually large number of perforated tablets, bird-forms and other even rarer shapes, of which there are many.

Chief among the objects procured from Mr. Matheson, may be enumerated fifty slate tablets or gorgets, perforated with one or more holes and varying to a great extent in form, seven banner stones, or as they are called in a recent publication emanating from the Smithsonian Institute, "butter-fly stones," thirteen bird-formed amulets (?), two spherical hammers of granite formation (these are encircled with a deep groove for attachment to a handle), two flat hammers (both notched for handle attachment), six stone pipes, six short tubes, five shell ornaments complete, two imperfect ornaments of the same material, two copper spear or lance heads (one having a tine or prong for insertion in a handle, the other being provided with a socket to receive the handle), one native copper axe, showing unmistakable traces of native silver, eleven grooved axes, one hundred and eighty plain axes, eleven iron tomahawks, some of them of a different pattern from anything already in our possession, six gouges, and a north-west "shaganappi" covered club. There are also several hundred flints, many of them of considerable size and well formed—others so rudely chipped as to prove admirable examples of the work done in what some writers would fain regard as the paleolithic period on this continent.

The large number of flints and axes in this collection will enable us to do, when opportunity offers, what we have hitherto been unable to perform satisfactorily, viz. : effect exchanges with individuals and institutions in our own and other countries.

From W. Ransom, Esq., England, we have received, through Mr. J. H. Pearce, President of the Biological Section of the Institute, a number of very good paleolithic flints, illustrative of early European "society." Most of these are from Hitchin and neighbourhood, in the county of Sussex, but some are from Persigny, France, and an exceedingly valuable specimen of celt in horn socket, is from one of the ancient lake dwellings in Switzerland.

Mr. Ransom's gift includes also some fragments of Samian ware and two specimens of the Roman stylus (all dug up in the city of London from a depth of ten feet below the surface) three beautiful arrow-tips, from Antrim county, and one from Derry county, in Ireland.

As Mr. Ransom's donation includes nearly all we possess illustrative of the stone age in Europe, we are indebted to him for the opportunity he has afforded us to compare equivalents of the two continents.

A genuine old English "Grey-beard" pitcher from the same gentleman is, perhaps, the only one in any Canadian collection, and will not be devoid of interest to those who fondly regard all that relates to the mother-land.

Owing to an oversight, our last report contained no reference to the gift of Sheriff McKellar, of Hamilton. This consisted of a *brach*, or old-fashioned handmill made by Mr. McKellar's father and used by the first settlers in the Talbot settlement. This *brach* was mounted in a portion of a hollow log, as originally used, and was sent to the Intercolonial Exhibition, London, after its return from which it was deposited with the Institute.

Another pair of *brach* stones was presented to the museum by the sheriff's brother, Mr. Peter McKellar, of Chatham. These two sets are probably the only ones of the kind ever made in Ontario, and it is gratifying to know that they have been preserved "to point a moral and adorn a tale" for coming generations.

Brachs or querns occupy a prominent place in the Archæological Museums of Britain and other European countries. It is not long since they were used in the Orkney and Shetland Islands, and it is said they were employed still more recently in Cape Breton.

Taken altogether, the year has not been barren of results, at least in so far as increase to the museum is concerned. Upwards of two thousand specimens have been added to our cases, and the collection is beginning to assume a character such as to warrant the belief that in a few years the Province of Ontario will possess an Archæological Museum, which, if not what it might have been with an earlier start, will, at all events, go a long way towards placing us upon an equal footing in this respect with other progressive nationalities.

It is needless to repeat here that, but for the small grant made by the Provincial Legislature to assist in this work, we could have done absolutely nothing. The material already in our cabinets is worth many times more than it has cost, and at the present rate of increase in quantity will, in two or three years, require every inch of space in the museum.

Just in proportion as it grows in number, variety and instructiveness, will it become popular, and consequent upon its popularity, we may look for a corresponding increase in the number of donations.

Two of the chief drawbacks to its growth and popularity in the meantime are its situation on a third-story floor, and the impossibility of having it thrown open to the public at reasonable hours. There are probably thousands of people in this city who are totally unaware that there is even a small collection of such objects; but few throughout the province know of its existence, and tourist visitors never hear it mentioned.

I am not aware that any real progress has been made since last report was presented to you towards the satisfactory solution of the problem relating to the purpose or uses of the many different sorts of objects that for convenience sake have hitherto been known as "banner-stones" and "ceremonial" weapons. There are not a few writers on this subject who express themselves glibly as to the application of almost every specimen that comes under their observation, but the truth is that regarding a large number of types we are totally ignorant of the purposes they served in aboriginal economy. Still we have reason to hope that some light will yet be thrown upon at least a few of the obscurities. In the journal of *American Folk-Lore* for October-December, 1888, there is a brief article by Mr. Franz Boas, on a "Collection of Ethnological Specimens from Alaska," made "by Lieutenant Emmons, during a five years' stay" in that country. These have been purchased by the American Museum of Natural History, in New York, and we are informed that "the collector has taken great pains to ascertain the meaning of the various implements," as well as to "record the traditions referring to them."

Our knowledge of what have been called ceremonial weapons, gorgets or tablets, and various animal forms has always been seriously at fault, but even the scanty extracts given in the article referred to, from the notes of Lieutenant Emmons, seem to be indicative of something like certainty. For example, the holes so almost invariably found in such objects have always proved mysterious to students, but writing of an ornamented and perforated stone Lieutenant Emmons says: "The holes in this amulet are used to put into them what is picked from the teeth, so that witches will not get hold of it to bring destruction to the person." Although this hint may not serve to explain everything relating to the presence of holes in such objects, it will at any rate give us a clue, and it agrees fully with a vague impression I have long entertained that they were in some way connected with luck.

It is unnecessary to go very far back in our history to meet with similar superstitious beliefs. It is not long since diseased persons, especially children, were passed through the dolmens of Cornwall and Brittany, with the hope that a cure might be effected, and this belief was, no doubt, connected with one concerning witch craft or the evil-eye. Keys, rings and beads have always been regarded as particularly ominous. Among many amulets of a similar kind in the National Museum of the Society of Antiquaries of Scotland, is one (No. 182, Section I) which is "a flat oblong stone, four inches long, by two and three-quarters wide, and less than a quarter of an inch in thickness, notched on the sides, and pierced with two holes one and a half inches apart, formerly used as a charm for the cure of diseases in Islay, Argyshire," and No. 196 in the same section is a "perforated stone which was hung up in a cow-byre in Cumberland, to protect the cattle from being bewitched." It would be easy to multiply instances relating to the past, and not very difficult to adduce many connected with the living generation.

It appears not impossible that the American specimens hitherto (for the want of better names), known as banner-stones, gorgets, and ceremonial weapons, were nothing more than amulets, supposed to have power against this or that kind of evil spirit, in accordance with the form or device of the objects themselves. Perhaps, also, this class of speci-

men may be found to include those tubes which have always been a puzzle, and of which our collection contains several fine examples. In the "Personal Narratives" of Humboldt, we find that writer in speaking of articles made from jadestone, remarking that the Spanish planters share the predilection of the Indians for these amulets, which are sold at a very considerable price, the form most frequently given to them being that of the Persepolitan cylinders, longitudinally perforated, and loaded with inscriptions and figures.

When we bear in mind that the Tlinglit of Alaska are less removed from a condition of genuine savagery than are most of the other North American aborigines, it is not unreasonable to expect enlightenment on many points from the notes of an observer like Lieutenant Emmons, who, as Mr. Boas states, "has taken great pains to ascertain the meanings of the various implements."

Since the issue of our first report last year, letters from different parts of the Province have been received by the Education Department, the Institute, and myself approving of the task we have undertaken, and giving information relative to localities and discoveries connected with the pre-historical or early historical existence of the Indians. Want of opportunity has prevented any advantage from being taken of these, but in all probability some original work will be performed next year at a few of the places to which attention has been directed, as well as elsewhere.

I am still convinced that from the five thousand teachers of rural schools in this Province, there is much valuable information to be gleaned. The question is how to reach them. Shall it be by a circular, or by a card in the educational journals? Perhaps both methods should be tried. We need not expect too much at first, but if the subject is kept persistently before the eyes of all who are engaged in rural school work throughout Ontario, there can be little doubt as to the profitable results. Perhaps even one letter from such a correspondent would fully repay all the trouble and expense incident to the plan.

Our collection has now assumed such proportions that it will be necessary to rearrange it, and in some measure to alter the classification. I intend also to paint a number on each specimen, and to catalogue them all. In many museums a number is all that serves to identify the pieces, and constant reference to a catalogue is thus involved on the part of him who wants to get information. This, however, is not my idea of how either to popularize a collection, or to facilitate the work of the student.

Everything possible should be done to enable young and old, learned and unlearned, to examine with pleasure and profit, at the least possible expense of time and trouble. This object can be obtained only by means of copious and legibly written, or printed labels,

It is gratifying to be able to state that as the existence of our collection becomes known so many persons having specimens willingly contribute them to the Museum.

Before this report passes through the press it is hoped that all the specimens will have been rearranged. The area of case room has been fully doubled, and we may now regard our Archæological Cabinets as not unworthy of examination by specialists in this department.

I have, etc.,

DAVID BOYLE.

TORONTO, December, 1888.

NOTES.

We are too much disposed to overlook the fact that there are degrees of advancement in savage life, both with regard to comparative time and to peoples, even neighboring ones, that exist contemporaneously.

It is seldom that in the writings of those who profess to describe the "manners and customs" of the uncivilized we are permitted to get a glimpse of the true, inner social aspect of life. Much is related regarding the predaceous, warlike and religious practices of this or that savage nation—something perhaps about its marriage and burial usages, its costumes, its domiciles and its most striking or peculiar characteristics of any other kind, but as a rule the greater part of such descriptions is superficial, and too often "things are not what they seem." Unseen, because far deeper, lie the originating instincts, the motives and the habits of thought that find only partial expression in what catches the eye or ear of the alien and casual onlooker.

By means of what we now call "folk-lore" something is being done in various parts of the world to put us in touch with the inner life of the simple past and its lingering representative in our own time. The scope of our knowledge has thus been extended in a direction once thought to be too narrow and barren for research, and the results have aided in the solution of not a few ethnological problems. On this continent efforts have been successfully made to collect myths and legends of the Indian race, and the work is still going on, although of course, owing to lapse of time, much has been irrecoverably lost.

The more we learn about the aborigines of this portion of America the more are we brought face to face with the fact that their savagery fell but little short of civilization. Perhaps barbarism would be the best term to employ when speaking about the condition of such people as the Iroquois, and in many respects the Hurons were little, if at all, inferior.

That they were revengeful and blood-thirsty is undeniable, but among the nations they were not alone in this respect. Their manifestation of these qualities was simply less refined than that of others who probably regarded themselves as civilized beings. In social and political virtue they were unsurpassed, and in point of mechanical ability their capabilities and attainments were marvellous. It is extremely doubtful whether any other people in the world, similarly circumstanced, could be compared with them in the latter respect. The variety, tastefulness and workmanship of their relics are amazing.

"Patience and perseverance" are stamped upon most of their productions, for it appears probable that many specimens of their handicraft must have occupied them at intervals during years, or even a lifetime. To take a rough lump of granite or other equally hard material, and fashion it by persistent pecking and rubbing into a symmetrical plain or grooved axe, or to form a bit of huronite into animal semblance for some mysterious use, required a continuity of purpose and a skill in execution no less remarkable than if one of ourselves should undertake to produce a bust with the aid of no tool but a pocket-knife, or a piece of machinery with only a hammer, a saw and a file.

In the art of making coarse pottery they excelled, and the further south we go until we reach Peru, the more do design and workmanship improve. Nothing that was very elaborate seems to have been attempted in this line by the aborigines who inhabited our part of the continent. Here they seem to have contented themselves with plain, serviceable vessels, yet not wholly devoid of ornamentation. This consisted mainly of lines and dots impressed upon the clay when soft, with an occasional variation in the outline of the vessel, such as narrowing to form the neck, flaring of the lip, and the addition of projections of various kind round the mouth. Although immense numbers of earthenware fragments are found scattered all over this Province, entire vessels are very seldom discovered. Farther south this does not hold good to the same extent, but whether this is owing to a difference in the quality of the materials employed in the manufacture, or to the climate and the character of the soil it is not easy to say.

Whilst no doubt among the Indians, much more than with ourselves, there were individuals who preferred articles of their own manufacture, it seems abundantly evident

that trades were specialized by them to a considerable extent. The expert in pipes, arrows, etc., would confine himself mainly to such occupations. As corroborative of the remark made in our last report that "to the women, in all likelihood, was allotted the making of earthen vessels," I was informed by Dr. Collins, of Lawrenceburg, Indiana, that there died recently an old woman belonging to a western tribe of Indians, who was said to be the last living representative of her people possessing the art of making pottery of the genuine, old-fashioned description. A friend of Dr. Collins, who was well acquainted with the old woman, persuaded her to make for him six specimens of her art. These he distributed among his friends, one falling to the share of Dr. Collins. I had the pleasure of examining this piece, and but for its comparatively new appearance it seemed to correspond very closely in material, form and ornamentation, with those that are occasionally taken from ossuaries in Canada and the United States.

The ancient people of the lower Mississippi valley were adepts in the production of pottery. The Louisiana historian, Du Pratz, refers to this fact, remarking that he found the Natchez Indians so expert that he got them to make a set of vessels for his own use. "The women," he says, "make pots of an extraordinary size, jars with a medium-sized opening, bowls, two-pint bottles with long necks, pots or jugs for containing hair oil, which hold as much as forty pints, and finally plates and dishes in the French fashion."

Father Marquette, in the account he gives of his voyage down the Mississippi in 1673, says: "They [the Indians of Arkansas] used in cooking, large pots of earth very curiously made, and large plates of the same material, which they employed for a variety of purposes."

Mr. George P. Thurston, in the *American Magazine of History* for May, writes: "Utensils and objects of well-burned clay are found in Tennessee, Missouri, Arkansas and elsewhere, of varied, original and even artistic form, interesting mementoes of ancient life, but they indicate no knowledge of the potter's wheel. They are without glaze, and are but comparatively rude conceptions, fashioned by hand."

The absence of glaze here referred to was, in some measure, overcome by the Natchez, whose "red-stained pottery" is spoken of by Du Pratz, a specimen of which we now have in our collection. A black stain was also used, and vessels are occasionally found whose exteriors are ornamented with patterns consisting of both colors. There is little doubt that this staining vastly improved the serviceable qualities of the pots, besides adding greatly to their appearance, for the material so applied has filled up the pores so thoroughly that the vessels thus treated take a fair polish when rubbed, and are at all times comparatively smooth to the touch.

The following nine figures, now in our collection, represent average specimens of earthenware from mounds in Cross County, Arkansas. They formed part of Mr. C. W. Riggs' exhibit at the Cincinnati Exposition:

POTTERY.



FIG. 1.

Fig. 1 is of the greatest capacity in the lot, its widest diameter being about eight inches. Considering the size its sides are thin. Although the outline is not devoid

of gracefulness, the workmanship is rude. The flaring of the lip is not uniform, nor are the walls of equal thickness throughout. Perhaps, the chief peculiarity of this specimen is the ornamentation which consists mainly of small, rounded projections about one fourth of an inch in diameter, and fully an eighth of an inch above the general surface. If these have been made, as is probable, by the material when soft being pushed outwards with the point of a blunt instrument, all traces of this operation have been removed, for the inside is as smooth as if nothing of the kind had been done. Mr. Riggs, had only another specimen ornamented this way in his collection, and he informed me that the pattern was rarely found.



FIG. 2.

Much less in size, but more beautiful in every respect is Fig. 2. Four scrolls cover nearly the whole of the lower portion, and between these are small circles each containing a diagonal cross. The upper part, or neck is relieved with a series of bars extending from the lip to the body of the vessel, and these appear to have been luted to their places after the general form had been completed.



FIG. 3.

The scroll design on Fig. 3 is similar to that on Fig. 2, but is more deeply marked, and round the neck are several loops of triangular form attached solidly to the vessel at their lower, or pointed ends, as well as to the lip itself. A clear space between these and the neck left ample room for suspension by means of a cord, but perhaps the intention was simply an ornamental one.

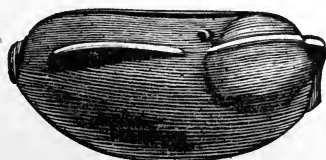


FIG. 4.

Fig. 4, nearly eight inches in diameter is fairly imitative of a frog, although the cut does not bring this out very clearly. In fact the legs and even the toes are plainly
2 (C.I.)

modelled, and the protuberant eyes are well marked. Otherwise the specimen is perfectly smooth on the surface.

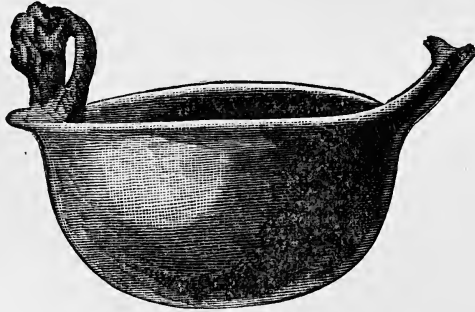


FIG. 5.

There has been a more pretentious attempt in the direction of art in Fig. 5. The handle, at the left of the cut, has certainly been a head of some sort, but whether a human one, or that of some other animal, it is now impossible to say, as the front portion has been destroyed. The projection on the opposite side has also been broken, and we can only imagine what it may have been. The body of the vessel is very well formed, and the burning has been better done than is often the case.



FIG. 6.

Fig. 6 is almost classic in outline, and is peculiar in having a slightly raised cincture or band round the middle of the body. The neck is not now full length, some pieces having been broken off, but it was probably never more than half an inch longer.

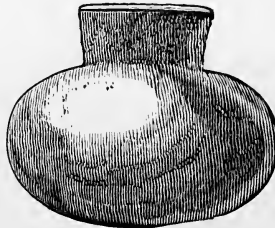


FIG. 7.

So far as shape is concerned Fig. 7 is a gem of aboriginal ceramic art. Its outline is almost perfect, and no attempt whatever has been made to ornament it. With the ex-

ception of a small fragment from the lip, this specimen is in every respect as good as on the day it was finished.



FIG. 8.

Fig. 8 is equally beautiful in form, and is remarkable both for the great length of the neck, and on account of having a well-made collar round its base to give it solidity when standing. Even here, however, there is no sign of the potter's wheel having been known—a close examination merely showing that the work has been done wholly by hand, but with infinite pains to make it as true as possible. The surface is free from markings.



FIG. 9.

Fig. 9 is a specimen of the "red-stained pottery" mentioned by Du Pratz. Some pieces have been broken from the lip, and a chip has been knocked off the side. These fractures enable us to see that the red-stain did not penetrate beyond the surface. Here also, as in Fig. 8, there is a well-formed base giving the vessel quite a modern appearance so far as shape alone is concerned.



FIG 10.

The fragment here figured was presented to us with other things by the Society of Natural History of Cincinnati, and was found near Madisonville, Ohio, a neighborhood which has furnished many thousands of the finest relics that enrich the museums of the world.

The simplicity and beauty of the design (Fig. 10) are unique. The pattern is totally unlike the normal lining traced by the Indian on clay vessels, and indicates a taste considerably in advance of what is usually exemplified in ornamenting pottery, or, indeed, anything else.

CLAY PIPES.



FIG 11.

Fig. 11 differs considerably from most aboriginal attempts to imitate the human face. It has been moulded in strong relief—the superciliary ridges are very prominent,

and the eyes, nostrils and mouth are deeply depressed. As is often the case, the face has been made to look towards the smoker when the pipe was in use. Unfortunately the stem of this pipe has been broken and lost.



FIG. 12. (Nearly full Size).

We seldom associate a sense of humor with Indian character, but Fig. 12 would appear to indicate that the maker of the pipe represented had some of this quality in his composition. The eyes and mouth are set awry and at different angles, giving an exceedingly comical air to the face—much more so, in fact, than is brought out in the engraving.

This was presented to us by Master Theophilus O'Connor, of Glen Huron.



FIG. 13. (4-5 size).

If another illustration of aboriginal humor is wanted we have it in Fig. 13. This represents the top or upper edge of a clay pipe, the open mouth of the human face forming the bowl. This is a unique specimen so far as the design is concerned—at least

I have not heard of anything similar elsewhere. It was found in Nottawasaga by Master Herbert O'Connor. The figure is only about four-fifths of the full size.

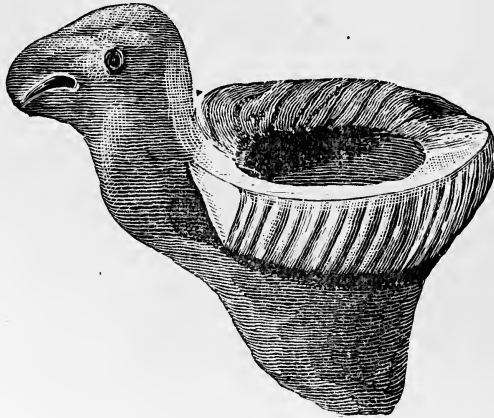


FIG. 14. (Full Size.)

A very fair imitation has here been made of the head of a bird of prey. This clay pipe (Fig. 14), is from the township of Nottawasaga, and was presented to us by Mr. Albert Loughheed. Unfortunately, the break prevents any certainty as to how the stem pointed, but very likely it was in the same direction as the beak. The lip of the bowl is of more than the usual thickness in Huron pipes.

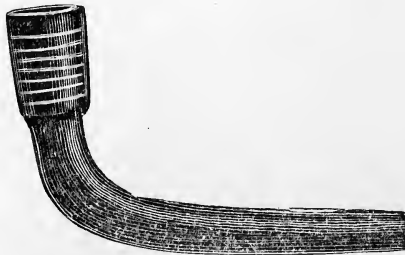


FIG. 15.

The very slender-looking pipe figured here is one of the few almost perfect clay specimens in the museum. Fig. 15, is only about one-fourth of the full diameter, having been too much*reduced by the engraver; still, the proportions are correct. In the making of such curved stems, it is probable that a flexible twig or other vegetable stalk was introduced through the entire length when the clay was straight, or else the material has been moulded round a bent core, and in either case the burning has been effected with the core in position, so that when this operation was completed the hole was left perfectly clear. This fine specimen is from the Baby farm at Lambton, where it was found by Mr. James Kirkwood.

STONE PIPES.



FIG 16. (full size).

Fig. 16 was presented to us by Mr. W. G. Kidd, Public School Inspector, city of Kingston. It is made of steatite or soapstone, a material plentifully found both *in situ*, and as "drift," and one which is easily wrought. This pipe is by no means symmetrical,

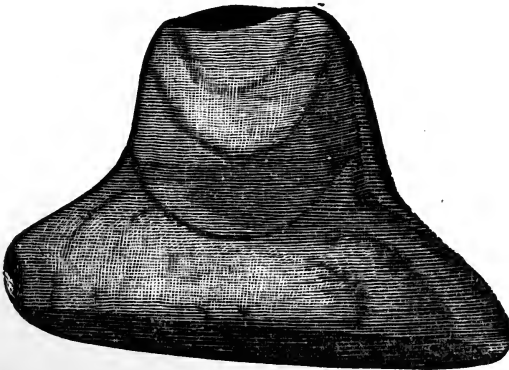


FIG. 17.

for not only does the bowl slope backwards from the stem end, but it inclines considerably to one side when the base rests on a level surface. The workmanship is very rude and

the type is regarded as one of the oldest. Compared with Figs. 17 and 18, as given in the report for 1887, it would seem almost to complete the series from the rudest to the

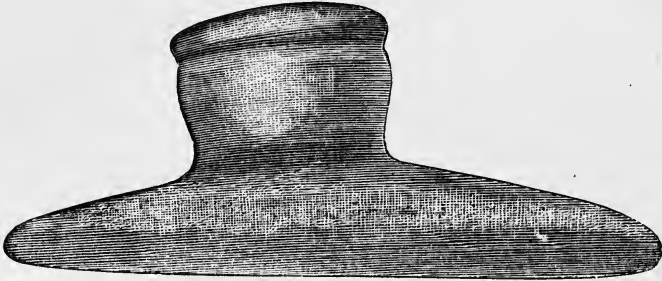


FIG. 18.

most elegant form in this class. It was found under a pine stump in the township of Pittsburg, county of Frontenac, not far from the St. Lawrence.

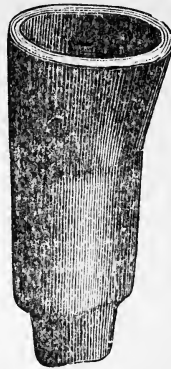


FIG. 19. ($\frac{1}{2}$ Size.)

Fig. 19 is a very good specimen of plain pipe-head. As it is quite black and smoothly finished, the nature of the stone cannot well be ascertained without injury to the appearance. It is perfect in every particular. The short stem-piece being intended for the insertion of a wooden tube. The appearance of the pipe thus complete would be very much like that of a cigar-holder. It was found by Mr. Wm. Bradley, of McGillivray township, on the Grand Bend of the Sable River, and formed part of the collection purchased from Mr. Matheson, Lucan.

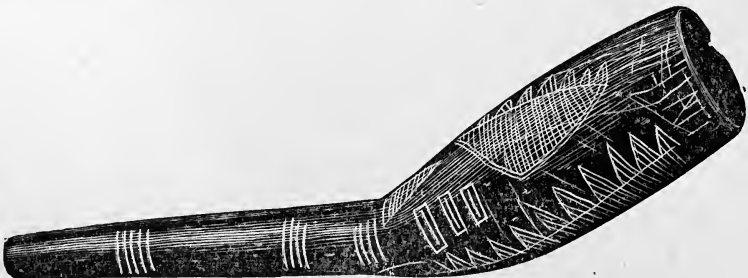


FIG. 20.

In pattern and finish, Fig. 20 is as far removed as possible from the Pittsburg specimen. This gracefully formed pipe is almost as perfectly round and smooth in the

bowl as if it had been produced in a machine. The stem is a flattened oval—the upper and lower being the compressed sides. The wall of the bowl is no thicker than that of an ordinary clay pipe, and, with the exception of a small chip out of the lip, the specimen is absolutely perfect. Its total length is seven inches. The greater portion of its surface is covered with delicate markings in which many people profess to see a pictograph representing wigwams, fortifications and tallies. This pipe is also made of steatite. It was found on the bank of Lake Moira, or Hog Lake, a few miles from Madoc, and was presented to the museum by Mr. Moon, of that village.

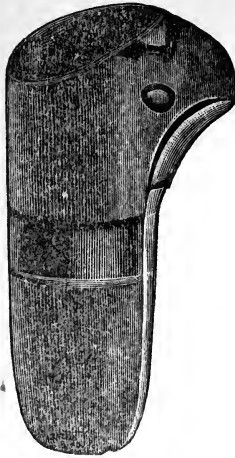


FIG. 21. (4-5 Size).

This pipe (Fig. 21) is also a well finished specimen. It seems to have been modelled from the head of a hawk or eagle. The material is quite black. There is a hole at the back for the insertion of a stem. This specimen was found by Mr Frank Scott, London township, and formed part of Mr. Matheson's collection.



FIG. 22.

Fig 22, from the same collection, was found on the farm of Mr. Thomas Stanley, township of McGillivray. It is of a light, fine grained stone, and has had much labor

expended upon it. The lozenge pattern on the upper portion of the bowl is accurately worked; the rings forming the neck are almost perfectly true, and the circular form is so correct that one is apt to conclude that the pipe must have been made with the aid of a lathe. As seen in the engraving, two chips have been knocked off this otherwise perfect specimen—one from the upper and one from the lower part.



FIG. 23. ($\frac{2}{3}$ Size).

Fig. 23 is another from the Matheson collection. The material is limestone, which has been rendered perfectly black exteriorly. The head and shoulders forming the bowl are circular, but the stem-holder is square. There is no attempt at detail in ornamentation beyond the rudely formed features of the face. This very good specimen was found at Hope Bay (near Wiarton), in the county of Grey, by Mr. John Hewton.

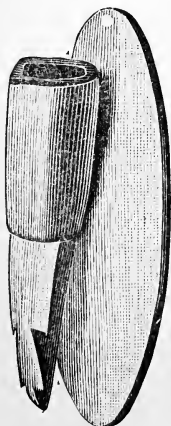


FIG. 24.

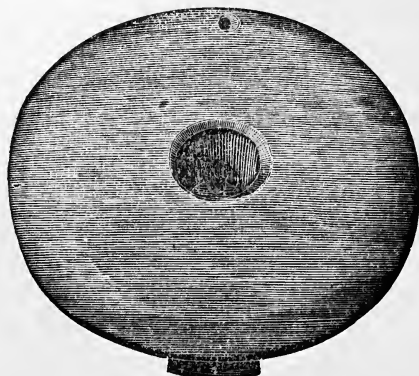


FIG. 25 (Size, $3\frac{1}{2}$ inches).

The very singular pipe figured here (Figs. 22 and 25) dispels former doubt relating to Fig. 26 which appeared in last report.

It is quite certain that this is a pipe. It is constructed on the same plan as Fig. 26, but with much better effect. It is made of a fine-grained sandstone. The disc is three inches and a half in diameter, comparatively thin, and the bowl is detached from the disc

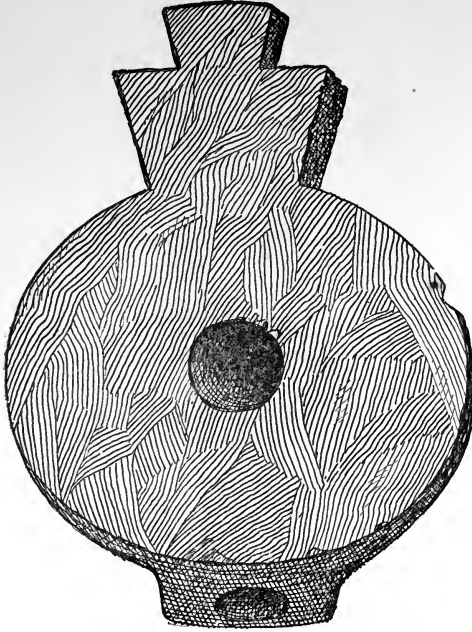


FIG. 26.

except in the centre, where it communicates with the large stem-hole from the opposite side, as seen in Fig. 25. The lower half of the bowl-piece is wholly ornamental, and it is noticeable how nearly the design corresponds with the lower end of Fig. 26; the one however, belonging to the bowl and the other to the disc. At the edge of Fig. 25, just above the mouth of the bowl, is a small hole, as if for suspension, and this probably was the way it was carried, serving, no doubt as a bit of personal decoration when not otherwise in use. This beautiful and unique object was found by Mr. James Cluness, on his farm in the township of West Williams.



FIG. 27.

The tastefulness of design and treatment of subject in Fig. 27, are suggestive of an aboriginal Michael Angelo. The material of which this pipe is composed, is a hard, compact

limestone. The bowl proper is, in its cross section, square, and the sides are straight, the width at the mouth not greatly exceeding that of the base. The head, which is so exquisitely carved on the front side, shows nothing characteristic of Indian physiognomy. Every feature is well brought out, and the finish of the workmanship is of a very high quality. This pipe is perfect in every respect. There is a stem-hole at the back. Fig. 27 is from the celebrated Longheed farm, in Nottawasaga, and was presented to the museum by the finder, Mr. Albert Loughheed.

IMPLEMENTS OF STONE.

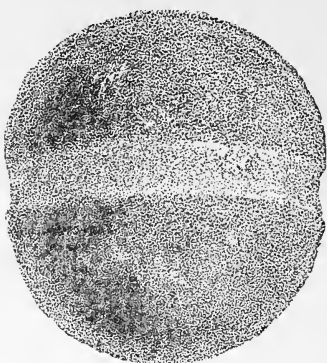


Fig. 28. ($\frac{1}{2}$ Size).

Dependent, as the former people were, mainly on stone for their tools and implements, they were quick to perceive in water-worn pebbles such shapes as might be readily adapted or modified for specific purposes. The museum of the Institute contains many specimens of this description. Naturally, most stones of the kind in question are oval or spherical, and as these required comparatively little labor to form hammers or club-heads, every first-rate specimen found was, no doubt, appropriated for such purposes. These stones in their natural condition are often found in graves where they have been deposited with finished articles, as if to furnish material for use in the spirit land. Sometimes without the expenditure of a single blow on them, they were encased in raw-hide and attached to the end of a handle, but frequently a groove was cut round the middle for the reception of a stout leather thong, the ends of which were firmly wound about a shaft. Fig. 28, procured from Mr. J. Wood, Lawrenceburg, Indiana, is a good example of the latter method, intentionally. Most of the surface possesses the appearance so characteristic of water-wear and subsequent weathering, but the aboriginal finder had begun to peck a groove all round, as is perfectly evident from the lighter color and sharper outline of the markings, as well as from the slight depression itself.

Stones of the kind referred to are frequently picked up in fields a long distance from water-courses, and are highly prized as Indian relics by youthful collectors, who cannot account for the symmetrical forms and smooth surfaces otherwise than by attributing these to human skill; but unless such specimens are found along with what are unmistakable objects of Indian art, they are totally valueless, except as geological curiosities.

Of a simple adaptation in this line Fig. 40 is a good example. It is a flat water-worn stone, originally ovate marginally. Near to the smaller end notches have been chipped for the purpose of fastening a handle, and it is evident that the intention was to make

use of it as a temporary working hammer, or as a club-head for less innocent purposes. Two of these form part of our collection.

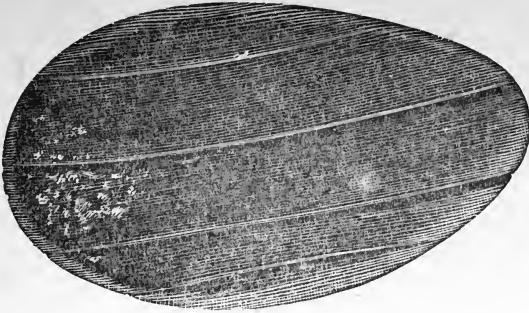


FIG. 29. (full Size).

Fig. 29 is composed of a fine, close-grained argillite, cut deeply on both sides, as if for the purpose of being broken off to form beads. Other specimens in our cases illustrate the same treatment, but this is interesting as shewing the advantage taken of a water-worn stone for the purpose of economizing labor. The other specimens referred to have been rough blocks, which were first smoothed on the larger parallel sides before the cutting was begun. (See Fig. 37). Fig. 29 was found by Mr. Richard Prance, on the eighth concession of McGillivray township. From the Matheson collection.

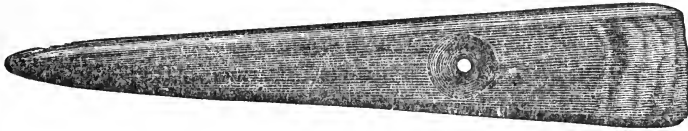


FIG. 30. (Full Size)

This specimen (Fig. 30) is somewhat peculiar. It is made of blue slate, and has been sharpened to a chisel edge at the wide end. The small end is carefully rounded, and the whole of the object is well finished. As a cutting tool it would be useless, and the

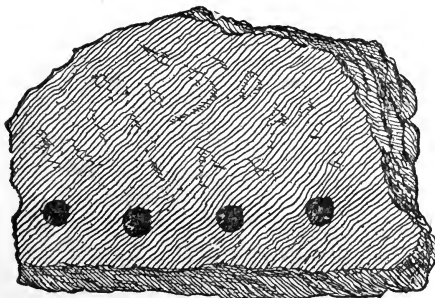


FIG. 31.

presence of the hole rendered it too weak for any operation requiring much pressure. Perhaps it was worn as an ornament, or as a button or pin to fasten clothing, and might

also have been used to mark patterns upon earthenware, fragments of which in the museum have certainly had the aid of some such instrument in their ornamentation.

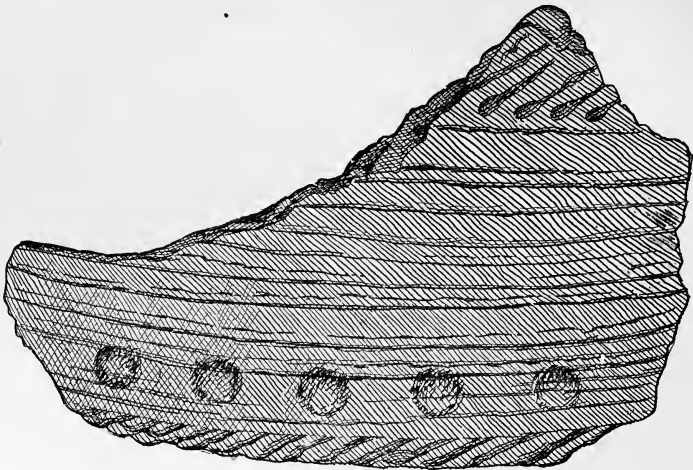


FIG. 32.

Fig. 31 shows where a tool having a pointed end like Fig. 30 has been pushed into the clay from the inside of a wide-mouthed pot, and Fig. 32 exhibits the effect of this operation on the outside. Both pieces are fragments of the same vessel.

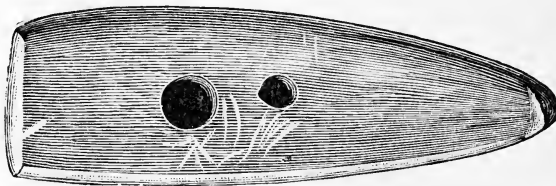


FIG. 33. ($\frac{2}{3}$ Size).

Five other specimens that I regard as having been similarly used, were recently presented to the museum by Mr. A. F. Chamberlain, M.A., he having procured them from a Mr. Stevens on Noncon Island, Lake Scugog. The one figured (Fig. 33), was found in a grave along with a copper axe, stone axe, slate tablet, bone spear, and other articles including a piece of pure plumbago.

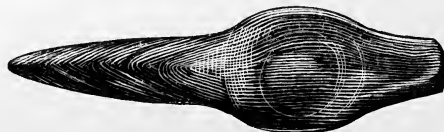


FIG. 34. ($\frac{1}{4}$ Size).

Fig. 34 is very unusual in form, and the only use that suggests itself to me is that of a pottery-marker. One of the noticeable features of Fig. 34 is that it has not been

bored. It is from near the city of Hamilton, in Butler county, Ohio, and was procured from Mr. W. K. Moorehead, now of Washington. The material is veined blue slate.



FIG. 35. ($\frac{1}{4}$ Size).

Fig. 35 is from Shelby County, Ohio, and was presented by Mr. Moritz Fischer, Curator of the Kentucky State Museum, in Frankfort. It is of argillite, like Fig. 34, is flat on one side and rounded on the other. On the lower, or flat side, a beginning has been made in the boring of two holes, each about three-fourths of an inch from the middle, and in the direction of the ends.

Another specimen, somewhat similar in shape in our collection, is from Mason county, West Virginia.

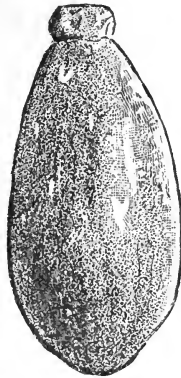


FIG. 36. ($\frac{1}{2}$ Size)

Fig. 36 belongs to the class of stone relics commonly known as "sinkers," but was more probably a personal ornament—a pendant of some sort, the notch or neck answering one of the purposes usually served by a hole. In this respect it corresponds with the hematite specimen, Fig. 78. This stone was found in W. Middlesex.

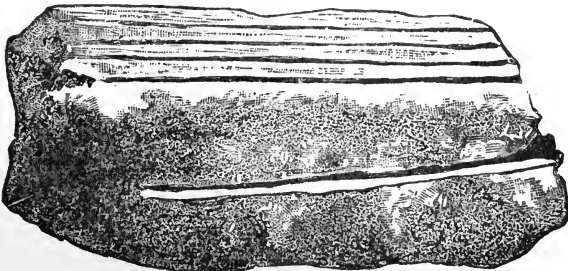


FIG. 37. (About $\frac{1}{2}$ Size.)

This is an instructive specimen, showing some of the steps taken preparatory to making red sandstone or freestone beads. The rough block has been smoothed on two

sides, and long cuts have been made for the purpose of procuring pieces suitable for boring. We have several finished beads of this material in our cases, from the counties of Simcoe, Wentworth and Middlesex. Fig. 37 is from the Loughheed farm, Nottawasaga.

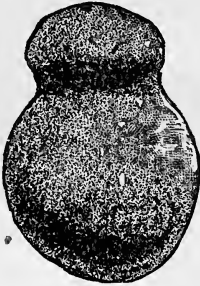


FIG. 38.

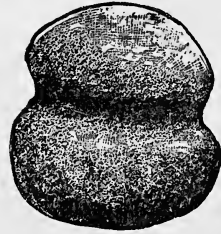


FIG. 39.

Stone hammers, like those figured (Fig. 38 and 39), are not often found. Fig. 38 is of limestone and Fig. 39 is of granite rock. It will be observed that the groove in Fig. 38 is between one-third and one-fourth of the whole length from the top, while that of Fig. 39 is in the middle, although, owing to preponderance of bulk, the lower end of the latter is also the heavier. It does not seem at all likely that these tools were employed to strike anything harder than wood, and perhaps the chief use to which they were applied was the driving of stakes in connection with the building of wigwams or "log-houses," or in fastening poles in the ground for fortification purposes. Fig. 38 was found 42 miles north-west of Brandon, Manitoba, by Mr. Titus Andrews, and Fig. 39 at Point Edward, Ont., by Mr. Louis Earnest. Both were procured from Mr. Matheson.

The former specimen is six and a quarter inches long and four and a quarter wide, while the latter is five inches long and four and a half inches wide.

A hammer of this kind found in Ohio weighs sixty pounds.

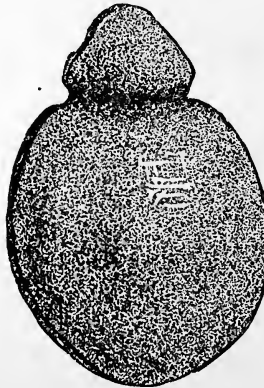


FIG. 40.

Fig. 40 is quite different in construction. It is simply a flat water-worn stone, measuring not more than an inch and a quarter at the thickest portion, and of soft shaly limestone.

Advantage has been taken of the natural ovate form to cut notches near the small end for the attachment of a handle, but it could have been intended only for temporary use. It is a little over eight inches long and nearly five inches in width. A smaller

one of the same kind is in the museum. Fig. 40 was found on lot 15. con 2, Biddulph and was procured from Mr. Matheson.

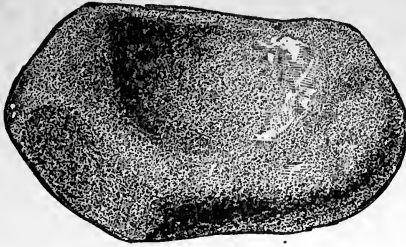


FIG. 41 ($\frac{1}{4}$ Size.)

Fig. 41 is a hollow limestone pebble. Stones in this condition are usually spoken of as "paint-pots," or "paint-mills," the supposition being that the work of hollowing has been performed artificially, and that the Indians employed them for grinding or holding the paints they used for personal decoration. While it is not improbable that some of these stones were employed for such a purpose (especially when they are found associated with other articles in graves), it is more likely that their peculiar form is the result of the action of water. The hollow has formed the matrix of a fossil which, having dropped out, subsequent attrition of sand and gravel in a water-course speedily deepened, rounded off and left smooth.



FIG. 42. (Full Size.)

Fig. 42 is part of the small European collection presented to us by Mr. W. Ransom.

Hitchin, Sussex, England. The upper three-fourths consist of deer horn, into which a deep hole has been worked from the under side, forming a socket in which there is fixed a small stone celt, identical in form with many that are found in this country. The handle, to the left, has almost wholly decayed, leaving only what is shown in the cut, unless indeed we regard the implement as a chisel, in which case the upper end would have been the part held in the hand. This specimen is from a lake-dwelling in Switzerland, and is introduced merely for comparison with our own.



FIG. 43.

Fig. 43 has evidently been employed as a cutting tool, the neck having been fixed in a socket or otherwise fastened to a handle. The type is of very rare occurrence in America. Many European collections contain highly finished symmetrical specimens. This one is from the County of Middlesex (where it was found by Mr. Delaney), and was procured from Mr. Matheson.



FIG. 44.

Grooved axes are rare in Ontario as compared with Ohio, Indiana, Kentucky and some neighboring States. In most cases also with us, the channel has been cut all the

way round in implements of this kind. To the south of us, however, in the larger number of these axes one of the narrow sides (probably the rear one when in use), has been left ungrooved, and occasionally specimens are found having the ungrooved edge slightly furrowed longitudinally, suggesting the idea of a wedge having been employed to tighten the tool when it became loose in its withie handle. The excellent axe shown at Fig. 44, is one of two procured through the kindly offices of Dr. Craig, Lawrenceburg, Indiana, from Mr. Rajon, J.P., of the same city.

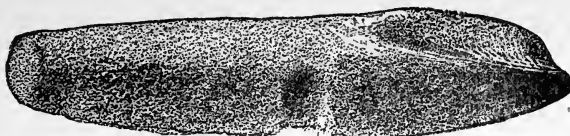
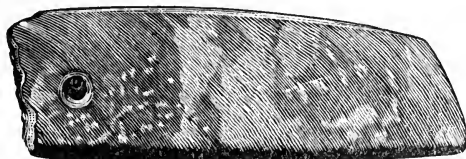


FIG. 45.

Gouges are seldom grooved. Fig. 45 is an exception. The inference is that this specimen was intended to be fastened to a handle. No signs of abrasion, however, are to be seen about the groove, but this may be owing either to the effect of "weathering" or to the tool not having been much used after it was made. The latter is the more likely supposition, as the "bit" is quite sharp and smooth. Fig. 45 is fully eight inches long. It was found on lot 18, con. 7, McGillivray township, by Mr. John Taylor.—Matheson Collection.

FIG. 46. ($\frac{1}{4}$ Size.)

There can scarcely be any doubt that Fig. 46 was intended to be used in the dressing of skins. The material is slate, and the lower edge has been sharpened by rubbing or grinding wholly from one side—like a carpenter's chisel. The hole was for convenience in carrying. Fig. 46 is nearly a perfect specimen in every respect, and is especially interesting as having been found within the city limits. It was taken from a cutting on Withrow Avenue by Prof. W. H. Vander Smissen and myself in the summer of 1887.



FIG. 47.

A considerable number of those mysterious stone tubes have been added to our collection during the year. Two of the best are from Pike's farm, Wolfe Island. They are made of a fine-grained, buff-colored stone, very much like the lithographic stone of commerce. The diameters of the two are nearly the same, but one is only half as long as the other. The longer one, measuring eight and a half inches, is shown at Fig. 47. Both of these differ from the common form of tube in the hole being more than twice as wide at one end as at the other. In Fig. 47, at the end showing the hole, the wall of the tube is scarcely one-eighth of an inch in thickness, while at the opposite extremity it is twice that. In addition to this the sides, although beautifully rounded, are not parallel throughout their full length, as the diameter increases slightly (but only slightly) at the end where the hole is enlarged.

It is probable that, like the "gorgets" and "ceremonial" stones, the tubes were regarded as being both ornamental and lucky. Were they ever employed as pipes? Even if it could be shown that they had some specific use, the element of superstition would still have to be taken into account, as we have the authority of Schoolcraft and others for believing that all, or almost all, the decorative "environments" of the Indian were looked upon as being more or less in the nature of amulets.

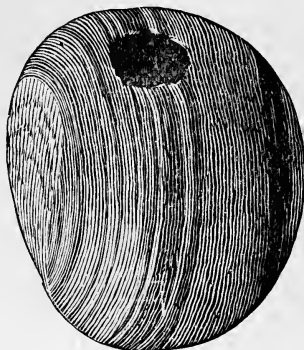


FIG. 48.

We may consider Fig. 48 from the same point of view. It is fashioned from a piece of thick and richly-veined slate—spherical except on one side, which has been made slightly concave in line with the hole which penetrates the piece. It was found on lot 20, con. 18, West Williams, by Mr. Alex. Thompson.

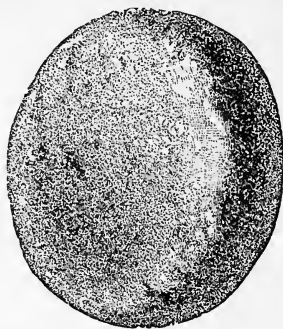
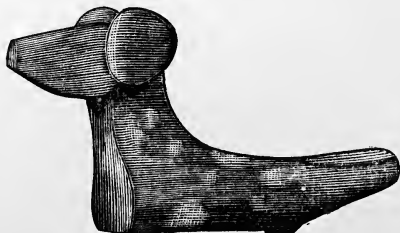


FIG. 49.

Fig. 49 is an unfinished specimen of the same kind, but of different material. A boring has been made in the drilling of a hole in what is clearly a water-worn stone, from Brookfield, Missouri, and was procured from Dr. Rear, Toronto.

Fig. 50. ($\frac{1}{2}$ Size)

The purpose or intention of objects like Figs. 50 to 52 is yet unexplained. Mr. Wilson of the Smithsonian Institute, at Washington, in a recent pamphlet states, that

an Ojibway Indian had informed him they were employed in playing a game of chance. This sage Indian affirmed that several of them were put into a vessel and shaken up. The vessel was then inverted like a dice-box, and the count was reckoned for or against the player, in accordance with the number found standing or fallen when the vessel was removed. There is more than one reason for believing that the Ojibway was a mere guesser at truth, and a very poor guesser too. 1st, because the bases of some are rounded off so much, or are so narrow, that it requires careful adjustment to make them stand at all. 2nd, many are top-heavy and therefore easily overbalanced. (Fig. 51 is illustrative of this,



Fig. 51. ($\frac{1}{2}$ Size.)

and of the convex base.) In the third place, what is perhaps the strongest reason why these objects were not so employed, consists in the fact that they seldom show any signs of abrasion. On the contrary, they are, of all relics those that are most frequently found in the best state of preservation. Other reasons might be adduced, as, for example, that these bird-forms are chiefly made of slate, or some equally fragile material. Fig. 50 however, is an exception to this, it being formed of huronite, a very hard and refractory kind of stone. Our collection contains another of these bird-forms, made from the same material.

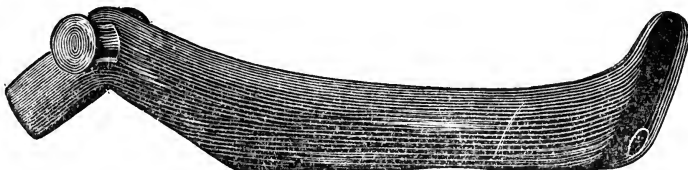


Fig. 52. ($\frac{1}{2}$ Size.)

In Figs. 50 and 52 the eye pieces stand out from the head like cuff buttons having a long and substantial stalk.

Fig. 51 is the only specimen of the kind I have seen having a projection on the crown. These three are from the township of West Williams. Fig. 50 is from the farm of Mr. Archibald McEwan; Fig. 51 from that of Mr. W. H. Johnston, lot 9, T. 21; and Fig. 52 from Mr. Robert Gray's property, on the 18th concession. They are part of the Matheson collection.



Fig. 53 ($\frac{1}{2}$ Size.)

Forms similar in material and construction but without any pretence at the imitation of birds or other animals are not uncommon. Fig. 53 is an example, but many of

them are quite plain, being flat on one side, and round on the other, with the ends at right angles to the sides. In every case these and the bird-forms are perforated at each end of the base or flat side, the holes being bored diagonally as in Fig. 53, but where bars are formed across each end, as if in imitation of feet, the holes penetrate these in the middle and at right angles to them in the direction of the object's longer axis.

Schoolcraft described all such specimens (Figs. 50 to 53) as knife-handles, but as no blades have ever been found showing any arrangement for attachment to articles of this sort, it must be concluded that this was not their purpose.

It seems more probable that they and the perforated tablets—perhaps also the stone tubes—were worn partly as articles of personal adornment and partly as amulets or luck-stones, and we can ill afford to smile at the superstitions of the aborigines in this or any other respect so long as we have among ourselves persons who keep coins (known as pocket-pieces) for luck; who carry horse chestnuts to ward off rheumatic attacks, and who suspend old horse-shoes over their doors, for what?

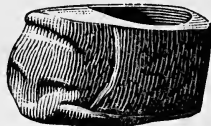


FIG. 54. ($\frac{3}{8}$ Size.)

Fig. 54 is one of the incomprehensibles. Although small and unfinished a good deal of labor has been spent upon it. The material is that light grayish-blue slate, so much in favor for perforated tablets, and what we call "ceremonial" weapons. An oval cavity has been made on the upper side, and at the end facing us in the cut a beginning has been made in the carving of a human face. But the further end is the most instructive part of this object, for there we are able to perceive the method employed to detach it from another piece. A thin flake of flint has been used as we would use a file to make a deep incision all round, and when the part has been sufficiently weakened the two pieces have been forcibly broken.

It should not be omitted to state that a hole has been bored through this stone from the bottom of the cavity already mentioned.



FIG. 55.

Another slate object is shown as Fig. 55. It measures three by two-and-a-half inches, and looks as if it had been intended for a pipe. Boring has been done from both ends, but the holes have not met. It was picked up on lot 18, con. 6, McGillivray Township, the farm of Mr. Wm. Meikle.—Matheson Collection.

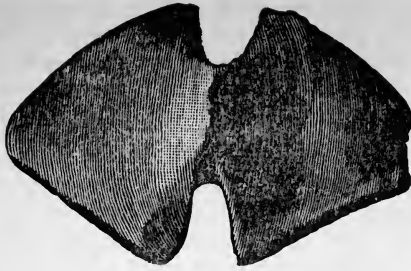


FIG. 56 (nearly full size.)

The smallest example of the banner stone in our collection is figured above. With the exception of a piece off one point it is perfect. It was found in the Township of Vaughan, in this county, and was presented to us by Dr. Orr, of the Village of Maple. The doctor is an enthusiastic collector, and has in several ways shown his good feeling towards our museum.

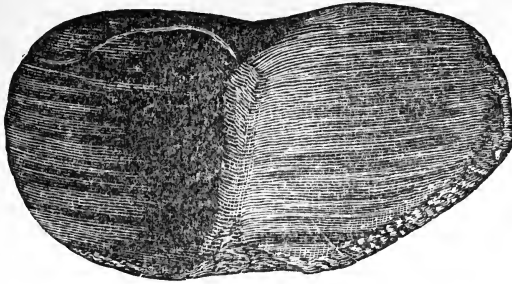


FIG. 57.

An unfinished specimen of slate, winged relic is shown at Fig. 57. It is valuable chiefly as another proof that the Indians did not perforate their work until it was almost or wholly finished. The presence of a few flaws on this specimen at critical places may have led to its rejection by the maker. It was presented to us by Dr. Craig of Lawrenceburg, Indiana, but came from Kentucky.



FIG. 58.

Fig. 58 is from our North-West Territory. Weapons of this kind are still in use among the Indians of Manitoba and more western districts ; or perhaps it would be more

correct to say that such articles are now mainly manufactured for sale as curiosities. With the disappearance of large game, skull-crackers of this description have become useless. The head is commonly fashioned from quartz or some other hard kind of stone. Generally they are about as accurately formed as if they had been turned. A groove is cut round the middle, and a thong of raw-hide encircling this and being bound tightly to the handle keeps the head firmly in position. The heads are from four to six inches in length and from one-and-a-half to two-and-a-half inches in diameter. The handle, including its leather covering, seldom exceeds three-fourths of an inch in diameter and is usually about three feet long. A foot or more of loose raw-hide extends beyond the handle. Besides being ornamental this was useful for wrapping round the hand before grasping the shaft, giving a much firmer grip. Since Fig. 58 was engraved we have been presented by the Rev. John McLean, M.A., of Fort McLeod, with a very handsome modern specimen of the "tommy-stick," as such a weapon is sometimes called. It is highly finished, and a pattern cut in the stone has been inlaid with lead. Mr. McLean has, besides this, presented the Museum with a large number of valuable articles illustrative of modern life among the Blood Indians, connected with whom he has resided for nine years. Further reference to these articles must be deferred until the issue of the next report, as they are not now available for description.

BONE.

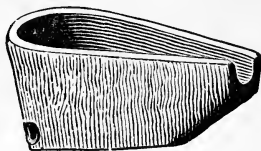


FIG. 59.

Among the articles of Eskimo manufacture mentioned in last report as having been presented by F. F. Payne, Esq., we have a set of "men" resembling dominoes, a number of carved figures representing a fish, a bear, a seal, a goose and two human beings. Besides these were a comb, a thimble, some ornaments and a powder measure—all made of bone.

The last mentioned is illustrated nearly full size at Fig. 59.

SHELL.

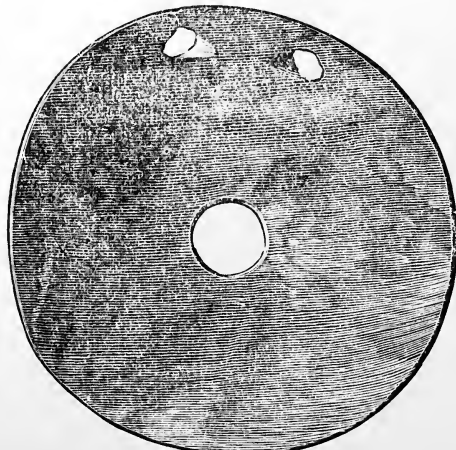


FIG. 60 ($\frac{2}{3}$ Size.)

Nothing affords better evidence of the widely-extended wanderings of the Indians

than we find in ornaments of shell made from species whose habitat is more than a thousand miles distant from where the manufactured articles are picked up. Valves of our own unios are often found in graves and ash-heaps, but scarcely any labor seems to have been spent upon them—they were probably regarded as too fragile for either use or adornment.

Large and strong conches from southern seas were highly prized, and some of the finest Indian scroll patterns have been wrought on broad pieces of these. No elaborately-worked specimens have as yet fallen to our lot, but we possess several plainly-made articles. Fig. 60 is part of a find made in 1849 by a Mr. John McDowell when excavating a cellar near Blackfriars bridge, London, Ontario. Many other fine specimens (all of which we procured from Mr. Matheson) were found in this grave. Those of shell included three whole "gorgets," one of which is represented in Fig. 60; two halves of others somewhat smaller; one large spoon-like piece made from what must have been nearly a third of the outside whorl; a small and neatly-finished heart-shaped ornament (all these were perforated) a large bead made from the columella; and eight pieces of wampum.

FLINTS.

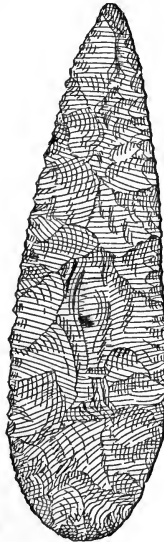


FIG. 61.

In Fig. 61, from Pike's Farm, Wolfe Island, we have an excellent illustration of the dexterity possessed by the Indians in the manipulation of flinty substances. Not only is this specimen as nearly as possible symmetrical, but it is surpassingly thin, for although eight and a half inches long, it barely averages one-fourth of an inch in thickness. The edges are sharpened by chipping mainly from one side.

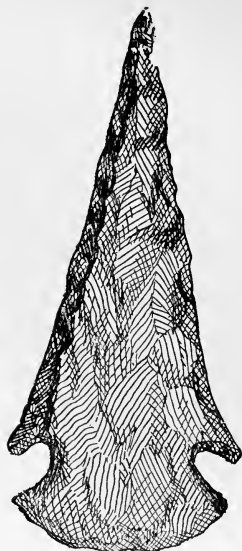


FIG. 62.

A unique specimen, in many respects, is shown at Fig. 62. Though less than three inches in length, it is almost as thick as Fig. 61. The sides are as nearly flat as it is in the nature of flint to be made, and the edges are chipped at such an angle as to make a cross section as nearly as possible a rhomboid. Flints so chipped have been regarded as "rotary" arrows, on the supposition that the intention of the angle was to make the weapon revolve in its flight,—a sort of aboriginal idea of "rifling," in fact, but that seems to be a little too far-fetched. It is more likely that the peculiarity, when it occurs, is owing to the want of ambi-dexterity on the part of the maker, unless, as is probable, say in the case of Fig. 62, the flint was intended for a drill rather than a missile. The projections at the base can hardly be regarded as barbs, because the sides of the neck project so far that when this head was attached to a shaft or handle the hollows would be completely filled with the material employed to fasten it on. It was presented by Mr. E. T. Hummell, Decatur, Alabama.

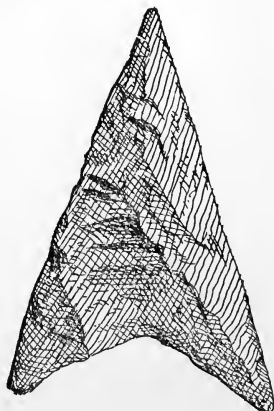


FIG. 63.

A somewhat unusual form of arrow-head is seen at Fig 63. The notched base combines the wedge method of insertion with the barbed form. This type of weapon is more common in the Central States than in Ontario.

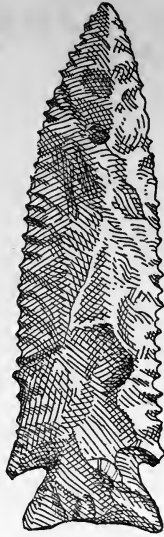


FIG. 64.

Fig. 64 is a fine example of the serrated edge. It is from near Lawrenceburg, Indiana, and was presented to us by Dr. Collins, of that city.

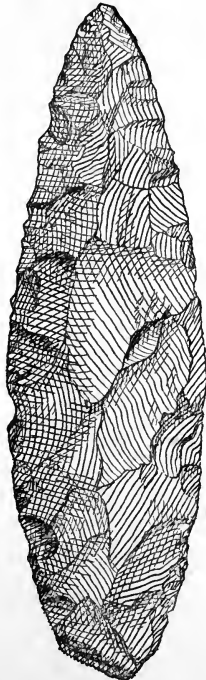


FIG. 65.

Fig. 65 represents the largest chipped implement in the museum. It measures eleven and a half inches in length. It is made of hard cherty limestone, and shows signs of having been in use for digging (?), as the ridges between the flakings are worn down slightly.

This magnificent specimen formed part of the handsome collection presented by Mr. James Dickson, P.L.S., of Fenelon Falls.

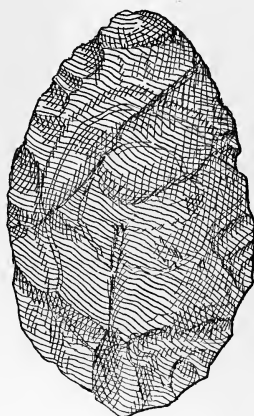


FIG. 67.

Fig. 67 is a large leaf-shaped and roughly dipped "flint," from Pike's farm, Wolfe Island. It is six inches and a quarter long, by four inches wide. If found in Europe it would be regarded as paleolithic, but as copper-beads and many highly finished stone weapons were found along with this specimen the inference is that all were produced contemporaneously. Another specimen from the same locality is made of similar material (both showing a nucleus) and is much better finished, besides being provided with a neck for attachment to a handle.

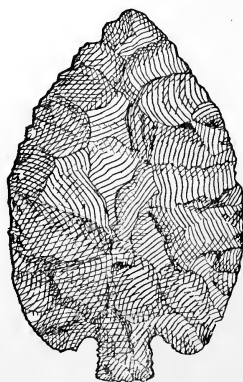


FIG. 68.

Fig. 68, scarcely inferior in size, is also from the same farm. The material, however, is of a finer quality, and the chipping has been more carefully done. It is about five inches and three quarters long and nearly four broad.

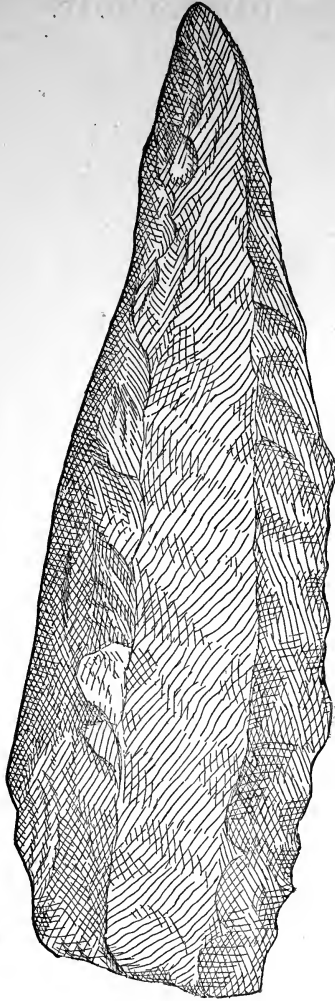


FIG 69.

Among the specimens presented by Mr. Ransom, of Hitchin, few are more instructive than the one figured at 69. It represents an enormous flint cone, ten inches long, from which large chips have been flaked for tool making. Fig. 69 is from Persigny, a locality that has yielded many valuable paleolithic relics.

CARVED HEAD.



FIG. 70. (Full Size.)

Fig. 70 is as beautiful as it is remarkable. Almost black, and apparently carved from a piece of limestone, one is struck at first sight both with the design and the quality of the workmanship. The head-dress is quite unlike what we would suppose an Indian to model, and the conception of the head itself is different in every respect from the normal aboriginal attempts to represent human features. The half-finished appearance of the under side of the neck gives us the idea that the head might at one time have formed part of a whole figure. A hole is bored through piece from below the chin to the top of the cap, immediately above the forehead. This specimen is from lot 34, con. 7, Beverley, the farm of Mr. Jas. Dwyer.

TABLETS.



FIG. 71.

Fig. 71 represents the celebrated Gest or Cincinnati Tablet. It is five inches long,

three broad at each end and half an inch thick. The material is a light brown sandstone of close texture. Quoting from Mr. Robert Clarke's pamphlet on the "Prehistoric Remains at Cincinnati," I find that Mr. E. G. Squier, a good archaeological authority, described this relic in 1848 as follows: * * * "The figures are cut in low relief (the lines being not more than one-twentieth of an inch in depth) and occupy a rectangular space four inches and two-tenths by two and one-tenth wide. The sides of the stone, it will be observed, are slightly concave. Right lines are drawn across the face, near the ends; at right angles and exterior to these are notches, twenty-five at one end and twenty-four at the other. Extending diagonally inward are fifteen longer lines, eight at one end and seven at the other. The back of the stone has three deep, longitudinal grooves, and several depressions, evidently caused by rubbing—probably produced by sharpening the instruments used in the sculpture. * * * It will be observed that there are but three scrolls or figures—four of one description and two of each of the others. Probably no serious discussion of the question, whether or not these figures are hieroglyphical, is needed. They more resemble the stalk and flowers of a plant than anything else in nature. What significance, if any, may attach to the peculiar markings or graduations at the ends, it is not undertaken to say. The sum of the products of the longer and shorter lines ($24 \times 7 + 25 \times 8$) is 368, three more than the number of days in the year; from which circumstance the suggestion has been advanced that the tablet had an astronomical origin and constituted some sort of a calendar."

Mr. Squier then goes on to suggest that the tablet was probably only a stamp, such as have been found "in Mexico and in the mounds of the Mississippi" made "of burned clay, the faces of which are covered with figures, fanciful or imitative, all in low relief like the face of a stereotype plate. These were used in impressing ornaments upon the clothes or prepared skins of the people possessing them." Dr. (now Sir) Daniel Wilson in "Pre-historic Man," vol. 1, page 175, after criticising the astronomical and stamp theories, proceeds: "But whatever theory be adopted as to its original object or destination, the series of lines on its two ends have justly attracted attention, for they constitute no part of the device and can scarcely be regarded as an ornamental border. Possibly in them we have a record of certain scales of measurement in use by the mound builders; and if so, the discovery is calculated to add fresh interest to our study of the geometrical structures, which, far more than great mounds, are the true characteristics of that mysterious people."

A recent essayist in the "Journal of the Cincinnati Society of Natural History" for January, 1887, after demonstrating to his own satisfaction the phallic origin and interpretation of the design and the astronomical intention of the lines and spaces, concludes, "Thus we have the exact descriptions of these tablets [the Richardson and the Gest or Cincinnati.] The numbers shown on these are familiar as those used in the measures of the Mound Builder works in which the tablets were found; also as periods of lunar and solar time, and especially lunar time, as marking the natural periods of menstruation, quickening, viability and gestation. The relationship becomes closer when we find that the Gest Tablet, as to its size, has special measures from the same unit or standard with the Gridley stone. They are: Length 5 inches; least breadth, 2.50 inches; greatest breadth, 3 (2.99) inches, with two chords of 4.50 inches each."

Whatever may have been the purpose of this tablet, if, indeed, it had any beyond caprice or whim on the part of the maker, it is, at all events, a genuine relic. Fortunately the evidence in its favour is too strong to be put aside by even the most iconoclastic.



FIG. 72.

As if to "make assurance doubly sure," however, on this point, the Clarke or Waverly Tablet has been discovered in the collection of Dr. W. R. Hurst, of Piketon, Ohio, where it seems to have been regarded of so little value that its broken parts were not even placed together.

Its corroborative testimony in favour of the Cincinnati Tablet cannot be over-estimated. Fig. 72, which is little more than half the full size, gives a fair idea of its appearance. That the spirit of the design corresponds with that of the other is manifest—there is only less of it. The piece of stone is barely half as thick as in the Cincinnati specimen, and is not so well preserved at the edges, probably on that account.

This tablet is now the property of Mr. Robert Clarke, publisher of Cincinnati, to whom we are indebted for casts of both these fine specimens.

COPPER.

Of all the material employed by the Indians in the production of ornaments and implements, native copper is among the rarest. It has been asserted in a recent publication that the presence of objects formed from this metal in its virgin condition over so large an area of North America in no wise argues communication on the part of the natives with the Lake Superior deposits. Enough copper, it is said, may be found as "drift," from which all the objects made by the Indians, might easily be made. While it may be acknowledged that drift copper is occasionally found, it must, at the same time, be affirmed that it is exceedingly rare. I have not heard of a single instance in Ontario, and the chances now-a-days are millions against one as compared with the opportunities afforded during the pre-historic period when forest-growth covered the country and when the ground was littered with dead and decaying vegetable matter. It is absurd to regard distance as any barrier when we find here sea-shells from the distant south. As well, too, might it be argued that pipes of catlinite discovered in Ontario, prove no connection with the famous pipe-stone quarries of the North-West. That copper was brought here from Lake Superior there can be little, if any, doubt.

In an article on "Ancient Society in Tennessee," by G. P. Thruston, in that excellent publication *The Magazine of American History*, the writer speaking of what is taken from the mounds of his State says, "Among the treasures found are a number of articles indicating commercial development, a pipe made of 'red pipestone,' or catlinite, found

only in Dakota Territory, more than a thousand miles distant; native copper from the shores of Lake Superior, ornamented sea-shells from the Gulf and south Atlantic coasts, mica from North Carolina, exquisite polished implements of cannel coal, pearls from the southern rivers, implements of polished hematite from distant iron mines, and of steatite and quartz from the Alleghany range."



FIG. 73. (Full Size.)

From the Pike farm on Wolfe Island, we have upwards of one hundred copper beads. As may be seen from Fig. 73, which illustrates fourteen of them, they vary considerably in size. They are in excellent preservation. Perhaps this is on account of their great thickness in proportion to the size of the holes. Along with these were three spike-like specimens, one of which is shown in the illustration. The eye is formed by the end being bent. In our show-case, the beads and the three long pieces are strung to form a necklace, the latter at nearly equal distances apart; but I have not been able to learn how far this arrangement corresponds with the way they were disposed when found. Altogether, these form a most valuable addition to our very modest collection of copper articles.



FIG. 74.

This cut represents nine cylindrical copper beads just as they were found in the Tremont Park mound, Tidd's Island. They were lying on a piece of the original hide or

leather to which they had been attached, and I was careful not to disturb them. They are made of beaten or leaf copper rolled into their present shape. In length they measure from three-fourths of an inch to an inch, and vary from three-sixteenths to five-sixteenths of an inch in diameter. The fine thongs by which they were sewn to the hide are still adherent to the under side.

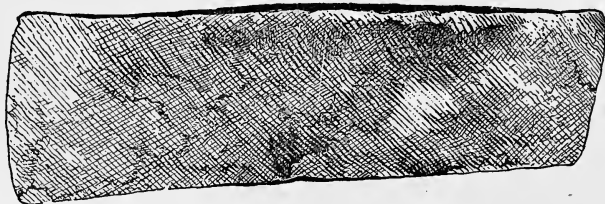


FIG. 75.

Fig. 75 was found by Mr. Samuel Haskett, on lot 23, con. 4, Biddulph township, and formed part of the Matheson collection.

It differs but little in pattern from some we had before, but it is, perhaps, specially interesting from the fact that a few specks of pure silver may be easily detected on the surface, thus affording proof (although none is required) that the material is native or virgin.

It is four and a half inches long, and one inch and a half wide at the cutting edge.

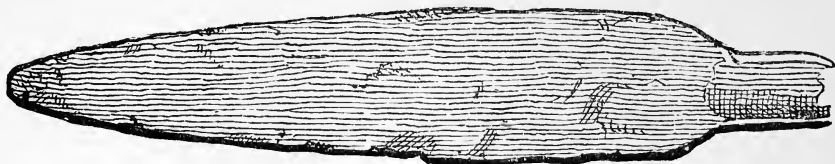


FIG. 76.

This good specimen (Fig. 76) was found by Mr. David Willet, in the township of Burford. It measures eight and three quarter inches long, and at its widest part is an inch and five-eighths. Like some of those described in our last report, it is provided with a fairly well-formed socket to receive a handle or shaft.



FIG. 77.

Fig. 77 is much smaller, and has a tine instead of a socket. It was ploughed up on lot 15, con. 7. in the township of London, by. Mr. James Hodgins. Both of these were procured from Mr. Matheson.

HEMATITE (Iron Ore).

The Indians of the territory (much of which formerly belonged to New France) now included in the Central States of the American Union, employed hematite to some extent in the production of weapons and a few other things.

I have never found, or heard of anything being found, of this material in Ontario, although it is more than probable that there are specimens of it in some private collections. The only trace of it I have met with was on Tidd's Island (see report for 1887,

page 10), where some decomposed ore had apparently been deposited in a grave for the use of the "dear departed" as paint. In the Central States, however, fragments of hard and compact hematite have been patiently ground, often into handsome form, for celts (or for insertion into the heads of clubs), corresponding in size and shape with many weapons found in this country, made for a similar purpose from granite, syenite and other primitive rocks.

We have one from the collection of Mr. Warren K. Moorehead, of Xenia, Ohio. Recently, we have also procured four good ones from Dr. Rear, of this city. They were found in Linn Co., Missouri.



FIG. 78.

Fig. 78 is of the same material, beautifully formed. A cross section is circular. The slight groove, one-third of the length from the top, suggests the idea of suspension, and the specimen may have been a sinker. It was found near Columbus, Ohio, and was presented by Master C. D. Pettibone, of Cincinnati.

TYPES OF RECENT IRON AXES.

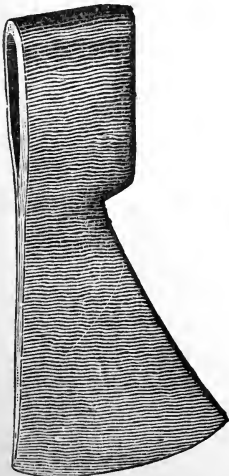


FIG. 79.

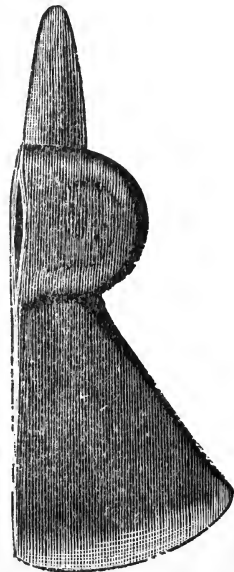


FIG. 80.

Immense numbers of cheap iron axes or tomahawks were imported to America for distribution among the natives "for value received" no doubt. Poor tools as these were,

few of them having a steel edge, they were still greatly superior to the former implements of stone or even copper, and were accordingly highly prized by the Indians. Fig. 79 is the most common type. Sometimes the pattern varies slightly and the size often very much. In what I take to be the oldest forms the hole is round; in those that are more recent it is oval. The stamps of the makers occasionally enables us to distinguish their nationality, but more frequently this is not easy. The billed or poled form is not so common. Fig. 80 is the only one in our collection. It was procured from Dr. Rear, Toronto.

Another form was somewhat similar to Fig. 80, but instead of the pole a pipe-head was fashioned, a small hole communicating with the handle which formed the stem. Axes of this kind were more ornamental than useful.

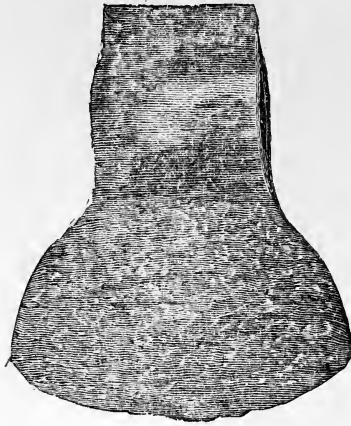


FIG. 81.

The type shown at Fig. 81 resembles the hatchet still used in Britain. Axes of this form are comparatively scarce in Ontario. All of the kind I have seen are steel edged, and therefore much more serviceable than those like Fig. 79. The cut illustrates one found by Mr. Albert Loughead of Nottawasaga.



FIG. 82.

The most modern form of tomahawk is shown at Fig. 82. It approaches closely to the shape of tool so well known by every one to-day. Those however, that

were served out to the Indians were made smaller than what we call a "chopping axe," the one figured being not more than half the average size of a woodman's implement. No doubt they were intended to be used single-handed.



FIG. 83.

The specimen figured (Fig. 83) is large and coarse, and has the appearance of having been forged by some colonial country blacksmith, who, if he did not actually try "his 'prentice han'" on it, had certainly not made a great many before he produced this one.

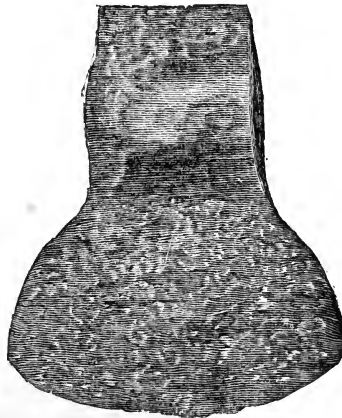


FIG. 84.

Indian hatchets were made by Canadian mechanics within the last fifty or sixty years. Two in our collection bear the stamp of the patriot "S. LOUNT." Fig. 83 was in the Matheson collection.

CONTRIBUTIONS TOWARDS A BIBLIOGRAPHY OF THE ARCHÆOLOGY OF THE DOMINION OF CANADA AND NEWFOUNDLAND.

[The accompanying list and digest have been prepared by Mr. A. F. Chamberlain, B.A., Toronto, and are the first on this subject that have ever been made covering the ground in question.

It requires only a glance to perceive the great labor involved in the preparation of such a statement as is here presented, and Mr. Chamberlain's sole reward must consist in the consciousness that he has performed a task which will, to a very considerable extent, facilitate reference by students, at the same time that it places on record the work that has been done in this field.

There are, doubtless, other papers and works bearing on the subject—for Mr. Chamberlain modestly speaks of his work as "Contributions,"—and he will be glad to hear from any one who may be able to assist him in making this bibliography as nearly complete as possible. Address, A. F. Chamberlain, B.A., Canadian Institute, Toronto.]

BAILEY, L. W., M.A.—Indian relics from New Brunswick. *Science*, Vol. I. (1883), pp. 245-246.

Describes some specimens of pottery.

BAILEY, L. W., M.A.—On the relics of the stone age in New Brunswick. *Bullet. of the Nat. Hist. Soc. of New Brunswick*, No. 6 (1887), pp. 3-16.

A somewhat exhaustive paper with three plates. Nature, distribution and mode of occurrence, pp. 4-7; implements of stone, 7-13; of shell and bone, 13; of clay, earthenware, 14-16.

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The most important contribution to the Archæology of Ontario. Describes, with 117 figures, part of the collection now in the Institute's Museum. Pottery, pp. 18-21; clay pipes, 22-24; stone pipes, 25-30; breast-plates and gorgets, pendants, 30-33; ceremonial weapons, 33-36; totems, tribe-symbols, 36-38; slate spear-heads, 38; grooved

axes, 39; gouges, 40; tubes, 41; beads, 42-43; flints, 44-47; grinding and rubbing stones, 48; objects in shell, 49-50; bone and horn, 50-54; copper, 54-56; village sites and ossuaries, 57-58.

Pages 9-14 describe Mr. Boyle's operations during 1887.

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A most important contribution to our Archæological knowledge of the Manitoba region. Plates p. 8 (5 figures), p. 12, p. 18.

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Interpretation of Indian wampum belts.

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WILSON, SIR DANIEL, LL.D., F.R.S.E.—Some Ethnological Aspects of Conchology. *Canadian Journal*, second series, Vol. III. (1858), pp. 377-409. Shell ornaments of Chinook Indians, p. 380; find (in 1848) of shells and pottery, p. 399; Indian cemetery near Orillia, pp. 399-400.

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TO THE

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ANNUAL REPORT OF THE COUNCIL OF THE CANADIAN INSTITUTE.
SESSION 1888-89.

The Council of the Canadian Institute has the honor to lay before its members its Fortieth Annual Report.

The Council has much pleasure and gratification in recording an increased interest in the work, and an extension in the influence and prestige of the Institute.

The movement for a universal system of time-reckoning, initiated by Mr. Sandford Fleming, has spread far and wide. A deputation waited on His Excellency Lord Lansdowne in May of last year with regard to this subject, who was kind enough to bring the pamphlet on "Time-Reckoning" before the notice of the Secretary of State, through whom it was sent to all the colonial and foreign governments.

Cosmic or twenty-four hour time is being largely adopted on this continent. Inquiries have lately been received from the government of Hong Kong on this subject. The very enterprising kingdom of Japan has adopted the system as the basis of its time reckoning.

A clock marking cosmic time, the present of an American firm, has been in the reading room of the Institute for over twelve months.

The government of our Province paid the institute the compliment of placing one of its members, Mr. W. Hamilton Merritt, on the Royal Commission to enquire into the Mineral and Mining Resources of the Province. The report is of great value and will largely extend the development of our mineral resources.

The interest in the work of the Institute has not flagged during the past year; there have been 24 ordinary meetings at which 31 papers were read, and 36 meetings of sections at which 39 papers were read, or a total of 70 papers for the session.

The range and character of these communications have been fully equal to the standard of former years; they have been well and fully discussed. The average attendance of the meetings is in advance of last year. The attendance of members in the reading room has also increased.

The Council desires to record its high appreciation of the generosity of the Government in again placing the sum of \$1,000 at the disposal of the Institute for the extension of archæological research. Through the indefatigable exertions of the curator many valuable additions have been made to the museum from the Province and from the United States. The admirable arrangement of the speci-

mens in the various cases, has greatly assisted the study of this important branch of our national history. It is gratifying to report that the museum has been visited by a large number of ladies and gentlemen, from many of whom valuable donations have been received.

The appointment of Mr. David Boyle, as representative of the Provincial Government at the Cincinnati Exhibition last year, has been productive of much good to the interests he represented there, and has been the means of many valuable gifts being presented to our museum. His archæological report for 1888 has already appeared as an appendix to the report of the Minister of Education for last year.

The thanks of the Institute are due to Mr. Sandford Fleming for his exertions in procuring an interesting and valuable present from the Grand Trunk Railway Company of a portion of the first sod of the Northern Railway, cut on the 15th October, 1851, by Her Excellency the Countess of Elgin and Kincardine, and the bottle used on 14th January, 1853, to christen Collingwood harbor, and an extract from the *Globe* of the 26th January, 1863, giving an account of these relics and other interesting matters.

The members of the Photographic Section, desiring to extend their work in a more practical manner, resolved to form a Photographic Society having wider scope than they believed would be offered by a union with the Institute; they have in consequence withdrawn from the Institute. The Council regrets this action.

The Biological and Natural History Section continues to make its influence felt, and deserves the thanks, not only of the Institute but of the citizens at large, for its recent successful remonstrances against the destruction of the purely natural beauties of High Park.

The list of donations and exchanges has increased. The library has received many valuable additions; this department is carefully attended to by our energetic librarian; over 300 volumes were bound this year; extra accommodation in the library is an urgent necessity.

The treasurer's statement shows a satisfactory balance at the credit of the Institute, and the increased interest taken in the Institute by the comparatively small number of members in arrears.

The membership has been increased by 22 elections during the past session. The Council after much careful thought determined to make a thorough examination of the list of members and enforce the rules against members in arrears who refused to make any settlement. The list now submitted is more complete than any hitherto presented to the Institute, and represents truly the actual membership. The Council would urge on the Institute the importance of adhering to the step now taken, and enforcing the rules against members in arrears, as it is only by this means that membership in the Institute will become of value.

The Council endorses the remarks of the auditors that a proper valuation of the assets of the institute should be made.

During the past year the Institute has lost by death two distinguished life members, the Rev. Walter Stennett, of Cobourg, and Prof. G. Paxton Young. Apart from his special attainments in the department of Mental and Moral Philosophy, Prof. Young was a mathematician of a very high order; some of his later papers read before and published in the Proceedings of the Institute, place him in the foremost rank of mathematicians.

In recognition of his valuable services at the inception and in the early days of the Institute, as well as his honorable professional career, Mr. Kivas Tully, C.E., (who was our first Secretary) has been elected an honorary member.

Your Council is much gratified to announce that the invitation of the Institute to the American Association for the Advancement of Science to hold its next meeting in this city has been accepted, and there are bright prospects of a very successful meeting.

Following up the memorial of January, 1888, meetings have been held with the Honorable Commissioner of Crown Lands with reference to setting aside a tract of land for the preservation of the forests and wild animals in this Province. At his suggestion a memorial with a sketch map showing an area which could be made available for such purposes is being prepared.

The reports of the various Sections are appended. They all show satisfactory progress in their several branches.

All of which is respectfully submitted.

CHARLES CARPMAEL,

President.

To Summary :—

" Government Grant	\$1,000 00
" Journals sold	15 65
" Periodicals sold	9 49
" Biological Section	50 00
" Woodcuts	4 75
" For Conversazione of 1886	2 00
" Interest	60
	<u>\$2,408 61</u>

By Summary:

" Salaries	\$ 370 50
" Printing Journal	688 67
" " Miscellaneous	39 25
" Stationery	45 53
" Postage	129 26
" Freight and express charges	23 27
" Repairs	56 96
" Gas	32 88
" Water	24 00
" Periodicals	123 21
" Furniture	6 00
" House cleaning	99 30
" Fuel	78 25
" Taxes	9 36
" Phonographic Exhibition	15 00
" Architect	50 00
" Customs charges and brokerage ..	3 00
" Advertising	7 75
" Sundries	19 35
" Interest	212 00
" Promissory note.....	200 00
" Balance in Imperial Bank	137 00
" Cash in hand.....	38 07
	<u>\$2,408 61</u>

Examined and found correct.

(Signed) ARTHUR HARVEY, } Auditors.
J. B WILLIAMS, }

JAMES BAIN, JR., IN ACCOUNT WITH ARCHÆOLOGICAL GRANT.

To Government Grant for 1888-89	\$1,000 00
“ Balance forward	35 45
	<u>\$1,035 45</u>
By Purchase of specimens	\$ 550 00
“ “ cases	91 65
“ Engraving and printing of specimens for Report.....	102 50
“ Travelling expenses and remuneration of Curator....	285 67
“ Bank charges.....	38
“ Balance on hand	5 25
	<u>\$1,035 45</u>

Examined and found correct.

(Signed) ARTHUR HARVEY, }
J. B. WILLIAMS, } Auditors.

ASSETS AND LIABILITIES.

ASSETS.

Building.....	\$11,500 00
Warehouse.....	720 00
Ground.....	3,000 00
Library.....	5,000 00
Specimens	2,000 00
Personal Property	1,000 00
	<u>\$23,220 00</u>

LIABILITIES.

Mortgage No. 1, due 1892.....	\$3,000 00
“ “ “	1,000 00
Balance in favor of the Institute	19,220 00
	<u>\$23,220 00</u>

The Auditors having carefully gone over the accounts and vouchers beg to report.

That the cash accounts kept by Mr. Young are in perfect order.

That the distribution into the various heads of income and expenditure, made by Mr. Bain, the treasurer, corresponds therewith.

Your Auditors think it would be wise to have a proper valuation made of the various assets of the Institute—Library, museum and building, and to procure by this means a reliable statement of its Assets and Liabilities—and recommend the subject to the consideration of the Council.

(Signed) ARTHUR HARVEY } Auditors.
J. B. WILLIAMS, }

Canadian Institute, Toronto,

April 25, 1889.

APPENDIX III.

CLASSIFICATION OF PAPERS.

Classification of papers read, by subjects:—Anthropology, 1; Archæology, 3; Astronomy, 2; Chemistry, 2; Economics, 1; Geology, 3; History, 2; Mathematics, 1; Miscellaneous, 3; Philology, 3; Political Science, 1; Physics, 3; Physiology, 1; Sanitary Science, 2; Social Science, 1; Sociology, 2; total, 31 papers read at 24 meetings.

Read at the meetings of the Biological Section, 22 papers; Architectural Section, 3; Geological and Mining Section, 5; Philological Section, 9 papers; total, 39. Making in all 70 papers.

APPENDIX IV.

LIBRARIAN'S REPORT.

The statement for the Library for the year 1888-89 is as follows:

I. Donations to the Library	85
II. Exchanges:	
1. Canada.....	138
2. Great Britain and Ireland.....	481
3. United States.....	569
4. Mexico and South America.....	43
5. Austria-Hungary	150
6. Belgium.....	54
7. Denmark.....	4
8. France and Algeria	396

9. Germany.....	106
10. Italy.....	146
11. Netherlands	25
12. Norway.	30
13. Portugal	7
14. Russia	37
15. Spain	18
16. Sweden	18
17. Australia.....	31
18. British India and China	34
19. Japan and Java.....	20
Total.	2,307
III. New exchanges.....	39
IV. Total number of exchanges.....	435
V. Periodicals subscribed for, same as last year with the exception of "Hardwicke's Science Gossip," which has been discontinued.....	31
Total single copies of these received.....	769
VI. Number of volumes bound during the year.....	306
VII. Number of publications taken from Reading Room and Library during the year.....	1,900
All of which is respectfully submitted.	

GEO. E. SHAW,
Librarian.

REPORT OF THE BIOLOGICAL SECTION.

The section has to report a year of progress and prosperity.

The regular fortnightly meetings have been held throughout the year, and the attendance has been satisfactory.

A schedule is attached showing the papers read—22 in all.

As this section is to a large extent educational in its objects, it is not required that the papers read should be the result of original research, and we would welcome the assistance of some of the many members of the Institute who are well qualified to give us much information that would both interest and instruct.

The microscope which our last report mentioned as having been purchased but not then arrived, has been received, and by its means many points in the papers read before the section are illustrated, and the enthusiasm of those mem-

bers engaged in the study of minute forms of life, has been quickened. The microscopical curator will always be ready to attend meetings of the Institute, or other sections, when the use of the instrument is desired. A small collection of slides has already been secured for the section's cabinet, and more are expected.

Two years ago when the Institute contemplated the completion of the museum upstairs, this section became responsible for two years for the interest on the mortgage of \$1,000, which was given to raise the necessary funds, and we are glad to say that this has been paid, and the section is now free from debt or liability.

Not much progress has been made in our department of the museum. We merely desire to draw attention to the fact that biological specimens cannot be mounted without money, and that our section has absolutely no source of income except grants from the Council of the Institute.

W. E. MIDDLETON,

Secretary of Biological Section.

The officers for next year are : James H. Pearce, President ; W. E. Middleton, Secretary.

SCHEDULE OF PAPERS.

1. E. E. Thomson.....*Canadian Birds.*
2. Rev. K. F. Junor.....*Echini.*
3. J. H. Pearce.....*Inaugural Address.*
4. M. Chamberlain.....*Canadian Birds.*
5. J. Noble.*Mosses (First Paper).*
6. " " *(Second Paper).*
7. Wm. Brodie.....*Parasites of Potato Beetle.*
8. Wm. Brodie.....*Lemothrips Graminæ.*
9. J. H. Pearce.....*Flowers (First Paper).*
10. " " *(Second Paper).*
11. W. E. Middleton.....*Fresh Water Sponges.*
12. J. B. Williams.....*Birds Observed in 1888.*
13. Wm. Brodie.....*Snakes.*
14. W. E. Middleton.....*Structure and Fructification of Ferns.*
15. C. Armstrong.....*Canadian Ferns.*
16. Wm. Brodie.....*Relation to Environment.*
17. E. E. Thompson.....*Winter Birds of Toronto District.*
18. J. H. Pearce.....*Moulds and Kindred Fungi.*
19. W. E. Middleton.....*Microscopic Mounting.*
20. James Noble.....*Plant Evolution.*
21. James Noble.....*Plant Development.*
22. A. Elvins.....*Volvox Globator.*

REPORT OF THE PHILOLOGICAL SECTION.

Gentlemen.—I have the honor to present for your consideration the Third Annual Report of the Philological Section, for the year ending March 31, 1889. During the session the section has met regularly on the second and fourth Tuesdays of each month.

Following is a list of papers read at the various meetings :

- (1) April 10, 1888—"A Chart of Elocutionary Drill." By T. B. Browning, M. A.
- (2) April 24, 1888—"Volapük, the New World-Language." By D. R. Keys, B. A.
- (3) April 24, 1888—"On some words of Indian origin in the French Canadian Dialect and Literature." By A. F. Chamberlain, B. A.
- (4) November 13, 1888—"The language of the Mississaguas of Seugog, with special reference to Sematology." By A. F. Chamberlain, B. A.
- (5) November 27, 1888—"The Semitic Vowels." By Rev. Prof. McCurdy Ph.D.
- (6) January 8, 1889—"The Origin and Development of Grammatical Gender." By A. F. Chamberlain, B. A.
- (7) January 22, 1889—"Language Learning and Language Teaching." By William Houston, M. A.
- (8) February 12, 1889—"The Gaelic Vowel System." By David Spence, Esq.
- (9) " 26, 1889—"The Gaelic Consonants." " "

During the month of March the section continued the investigation of the Gaelic Language introduced by the papers of Mr. Spence, of whose valuable assistance it was enabled to avail itself. On the 8th January, 1889, the Rev. J. F. McCurdy, Ph.D., resigned the office of chairman of the section, to which position Mr. D. R. Keys, B.A., was duly elected.

The officers for the ensuing year are:—Chairman, D. R. Keys, M.A.; Vice-Chairman, Jno. Squair, B.A.; Secretary, A. F. Chamberlain, M.A.

(Signed) A. F. CHAMBERLAIN,
Secretary Philo. Section, C. I.

REPORT OF THE GEOLOGICAL AND MINING SECTION.

Gentlemen.—Very much interest continues to be manifested by the members of this section, in the study and discussion of those subjects which form the speciality of our organisation.

At the various meetings which have been held during the year, the attendance has been good.

At the first meeting of the sessional year, communications were read from the Department of the Interior, referring to measures taken by that Department for collecting and publishing statistics and other information on the mining and metallurgical interests of the Dominion, and enclosing a copy of an Order-in-Council on the same subject, approved by the Governor-General in Council; also referring to an interview had by the chairman and secretary of this section, with the Deputy Minister of the Interior, on the subjects of (1) Prompt publication of the Survey's reports on mining affairs; (2) Coöperation of the Dominion and Provincial Governments in the collection of such information, and (3) Legislation making the furnishing of such information compulsory.

In thus directing the attention of the authorities to an important subject, the section has been able to do good work, and recent publications of reports justify the action taken by this section.

A number of interesting papers have been read during the year, and the discussions arising therefrom have aided materially in familiarizing many with facts relative to the minerals and mineral resources of our Province.

The Section has also taken much interest in the project of establishing in this city a Provincial Mineralogical Museum, and trusts that its efforts in this direction may yet be crowned with success.

Officers have been elected as follows for the current year:

Chairman—W. Hamilton Merritt.

Vice-Chairman—Arthur Harvey.

Secretary and Curator—David Boyle.

Managing Committee—R. W. Phipps, A. F. Chamberlain, A. Elvins, John Notman, P. H. Bryce, M.D.

The present year is confidently regarded by the section as likely to prove more than usually profitable to the section in all that relates to the investigation and study of geology and mining in Ontario.

W. HAMILTON MERRITT,

Chairman.

ARTHUR HARVEY.

Vice-President.

DAVID BOYLE,

Secretary.

PAPERS READ DURING THE SESSION.

Mr. Harvey—"On Certain Lacustrine Deposits;" "On the Synclinal Trough of Lake Superior."

Mr. Merritt—"The Iron Ranges of Northern Michigan and Minnesota;" "Laurentian Formation of New Jersey, with relation to the Iron Mines therein."

Mr. Mills, of St. Ignace, Michigan—"Iron Smelting Furnaces."

REPORT OF THE ARCHITECTURAL SECTION.

Gentlemen—The members of the Section have met fortnightly during the Session, the meetings being chiefly occupied by instructive and interesting discourses, theoretic and practical, delivered by some of the prominent Architects and Master Mechanics of this city, who commended and encouraged the objects and motives of the Section, promising and offering us their entire sympathy and support.

The following were among the papers read and debated upon, being subsequently published in the *Canadian Architect* :

"The responsibilities of Students to their Profession," by R. R. Gambier Bousfield, A.R.I.B.A. ; "Subsoil Irrigation," by E. Burke, Architect ; "A Discourse on Carpentry," by R. Wilson.

Besides the papers and addresses, competitions were engaged in in designing Bay windows, Oriel windows, Entrances, etc.

At the close of the Session the following officers were elected: Robert Dawson, Chairman ; Chas. D. Lennox, Treasurer ; J. Fras. Brown, Secretary.

Yours verily,

J. FRAS. BROWN, *Secretary*.

REPORT OF THE SOCIOLOGICAL COMMITTEE.

The Committee on Sociology begs leave to present its report for the year 1888-89.

1. Your Committee was constituted at the first meeting of Council this year and at once procured a circular, which appears in the last *Fasciculus* under the heading "Sociological Circular," to be drawn up, printed and distributed chiefly to the following classes of persons :

(1) Indian agents, farm instructors, inspectors, teachers in Indian schools in Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward's Island, Manitoba, the North-West Territories and British Columbia.

(2) Magistrates, inspectors of North-West Mounted Police, registrars, clerks of the peace, members of Council in North-West.

(3) Missionaries of the leading churches: Church of England, Roman Catholic, Presbyterian, Wesleyan.

More than a thousand copies have been distributed, so that your Committee is of opinion that the circular has found its way to most persons in the Dominion who are interested in Indian questions.

2. Your Committee has received material assistance from the Hon. Edgar Dewdney, Superintendent-General of Indian Affairs for the Dominion, the Hon. A. S. Hardy and the Hon. G. W. Ross, Ministers respectively of Crown Lands and Education of Ontario ; is deeply indebted to the newspapers, educational, religious and legal press of Canada for bringing the subject to the attention of the public, and for extended and favorable notices of the Committee's work ; also to the following periodicals : Magazine of Western History, Popular Science Monthly, Journal of Anthropology of the United States, Historical Review and Law Quarterly of England.

3. At the request of your Committee the Canadian Pacific Railway has kindly consented to carry archæological and natural history specimens free of charge for the Institute.

4. The publication of the Indian Treaties of Canada and the Provinces has engaged the attention of your Committee. The Council and Institute will, no doubt, be pleased to learn, from the accompanying letter of Mr. Vankoughnet, that this important work is under way and will shortly be completed. The correspondence on the subject is herewith submitted. Copies of the Dominion Reports on Indian Affairs from 1875 up to and inclusive of 1888 have been received for the use of the Institute, for which your Committee has duly returned its thanks to the Superintendent-General.

5. In reply to the circular a number of letters and abstracts have been received, among them

- (1) A short abstract from the Rev. T. S. Cole, B.A.
- (2) An interesting letter from Inspector A. Bowden Perry of Prince Albert, North-West Territories, which your Committee begs to submit to the Editorial Committee for publication, together with a detailed paper on
- (3) "The Western Déné," by the Rev. A. G. Morrice, O.M.

A number of other papers are promised, principally by reverend gentlemen whose duties bring them into direct contact with the Indian population of Manitoba and the North-West.

6. Your Committee begs leave to reserve such remarks of a sociological nature as it may desire to make for the separate papers as they appear, suggests that the circular be re-issued with such alterations and additions as may seem proper, and entertains the hope that the success which has accompanied its efforts this year will be redoubled in the year to come to the common benefit of the Institute, its members and the country.

All which is respectfully submitted on behalf of the Committee.

T. B. BROWNING,
Chairman.



ARCHÆOLOGICAL REPORT.

BY DAVID BOYLE.

To the President and Members of the Canadian Institute:

GENTLEMEN,—It is gratifying to be able to state that the interest in archaeological matters has increased very considerably throughout the province, since the inception of our scheme to place ourselves as nearly as possible abreast of other countries in this respect. The hope expressed in our first report, that “its appearance would tend to arouse a more general interest in the subject,” has thus been realized. The activity, however, has been mainly displayed in the work of collecting. Old collectors have been encouraged to go on, and many new ones have entered the field. On this account there is no doubt that much valuable material will be preserved, which otherwise would have been lost, but as a consequence, there is now greater difficulty in adding specimens to our collection. Ultimately, it is probable that many amateur lots will find their way to the provincial museum, and already several assurances have been given to this effect by individual collectors. Another good result arising from our project, is the very general determination arrived at by almost all who pick up specimens, not to let them go out of the country. In a few instances collectors seem to be mainly actuated by mercenary motives, but as a rule they are really *amateurs*. Among the latter are some who take the broad, public-spirited view, that it is better to place their “finds” in a large collection, where every one may see them, than to retain them at home for merely personal gratification.

On a list of such for the past year, the Institute must place the names of Messrs. R. W. Reavley, B.A., Teacher, Tilsonburg; R. D. George, Teacher, Fonthill; William and David Melville, Creemore; Dugald Carrie, Teacher, Creemore; Cyrenius Bearss, Sherkston; Wm. Michener, Sherkston; Isaac and Ezra Bearss, Sherkston; John N. Boyle, Braeside, Richmond Hill; Dr. R. Orr, Maple; William and Robert Lougheed, Smithdale; Herbert and Theophilus Connor, Glenhuron; Thomas White, Cashtown; Thomas Boon, Bothwell; Mrs. Barney, senior, Sherkston; Geo. Muma, Humberstone; Mr. John McPherson, Toronto; Miss Kirkwood, Toronto; Wardie and Oattie White, Toronto; Joseph Smelser, Vaughan; Luke Mullock, Waterdown; Major J. M. Delamere, Toronto; Wm. Welsh, Amberley; Rev. John McLean, Moosejaw, N. W. T.; Angus Buie, Nottawasaga, and Clarence Bell.

Thanks are also due to a large number of persons in various parts of the province, who have supplied information of great value. The names of some of these gentlemen, with a statement of the results arising from their communications, will be found in the present report. In other cases the work remains to be done.

Owing to some misunderstanding, the number of reports printed last year was considerably less than for the year previous. On this account I believe that even the members of the Institute were not supplied with them, and many applications for copies have had to be refused. This year it is hoped that a large enough number will be struck off, to supply all who are interested.

I have already stated that the increased archæological activity recently displayed among amateurs, has manifested itself chiefly in the work of collecting. This is good so far as it goes, but does not accomplish what is required from the Institute's standpoint. For present and future use are demanded at least moderately accurate surveys of all aboriginal locations, with drawings of fortified works, and exact data relating to materials, patterns, depths, soils, ash-heaps, position of bodies, with particulars relating to skulls, modes of burial, presence or absence of European influences, and many other details requiring experience, time and labor to record satisfactorily.

Mr. A. F. Hunter has devoted considerable time and done a good deal of travelling, for the purpose of locating villages, potteries and ossuaries, in townships formerly occupied by the Hurons. His paper on that district is exceedingly interesting, and will enable any future explorer with "reasonable means," to economize time in making a more detailed survey, or in excavating for relics.

Having begged permission from Dr. Francis Parkman, the historian, to quote from his works for use in this report, in connection with the work done in Simcoe county, a prompt and courteous reply was received from that gentleman, granting the favor asked. In this note Dr. Parkman wrote :

"I infer from what you write, that you are making investigations in the old Huron country. Should the result be printed, I should be glad if you would let me know of it."

Copies of our two former reports having been mailed to him, he afterwards wrote :

"Thank you for the two reports of the Canadian Institute which you have kindly directed to be sent me. It is certainly in the power of the Institute if it has reasonable means at its disposal, to do good service to American archæology, by exploring the Indian remains of Ontario, and above all those of the old Huron country, including that of the Tobacco nation. I am glad a beginning has been successfully made in this direction, and hope that the Institute will be enabled to continue its work, before the spread of settlement makes such researches difficult or impossible.

"Yours very truly,

"F. PARKMAN.

"Boston, 3rd July, 1889"

It is inspiring, even inspiring, to know that we have the countenance of so high an authority, the very highest in fact, in all that appertains to the history of American and more especially (so far as we are concerned), of Canadian Indians. No one better than he can fully estimate the value of such investigation, in their bearing upon the past and present European relations of the Aborigines to the history of our country, for no one else has devoted so much of a busy life-time to the patient, arduous and scholarly study of Canadian colonial development, the results of which are embodied in a series of volumes, that are perhaps unequalled in the historic literature of any other land in the world.

It would be difficult to conjecture what Dr. Parkman regards as "reasonable means" at the disposal of the Institute, whereby "to do good service to American archæology," and he would probably be incredulous were he informed as to the smallness of the sum that has been spent by us in three years, for the purpose in question—a sum which has covered payment of services, travelling expenses, employment of manual labor, purchase of specimens, express and freight charges, supply of show cases, printing of circulars and labels, postage and engraving.

During the meeting of the American Association for the Advancement of Science, many of the most distinguished ethnologists and archæologists on this continent, examined our collection of illustrative specimens, and their remarks on the extent and character of the museum were such as to afford the Institute satisfaction with what has been accomplished, as well as encouragement for future prosecution of work in the same direction.

Prof. Putnam, of the Peabody museum, which has one of the largest collections of this kind in the United States, said that in proportion to its size, our museum contained a greater variety of unique and instructive specimens, than any other he had ever seen.

Dr. Abbott, of Trenton, New Jersey, expressed himself as being especially pleased with the contents of the cases containing ornaments and implements of bone.

Rev. Mr. Beauchamp declared that our collection of stone "bird-amulets" was superior to anything of its kind in any American museum.

Prof. Morse, of the Essex Institute, Mass., was surprised to see the variety of pottery patterns.

Several of the visitors recorded their opinions on the pages of our register, and from these the following are quoted :

Mr. A. E. Douglas, of the Museum of Natural History, New York, wrote :— "I consider this collection is almost unique in objects of great interest to archæologists." Mr. Douglas is himself, the owner of one of the largest private collections in America. It is on permanent exhibition in the New York museum.

The Rev. W. M. Beauchamp, of Baldwinsville, New York, and an *attaché* of the Smithsonian Institute, Washington, expresses himself as follows :— "I have been greatly pleased and profited by examining the valuable collection of Indian articles in the Canadian Institute, among which are some that are beyond price to an antiquarian, and will prove of the highest use in solving some questions of early history. Ontario will soon have reason to be proud of such treasures." Mr. Beauchamp is now employed in getting together for the Smithsonian Institute just such information relative to the Hurons, as Mr. A. F. Hunter and myself employed a portion of the past season in procuring for the Institute.

Mr. Chas. W. Smiley, who is also connected with the Department at Washington, wrote :—"Here is a fine collection, which we should appreciate in Washington very highly. Whatever more can be obtained and added before it is too late, should be secured *at once*. Unless Ontario gather up her scattered materials soon, they will be taken away to enrich museums abroad. Now or never!"

Few persons are better qualified than Dr. C. C. Abbott, of Trenton, New Jersey, to express an intelligent opinion in relation to matters of this kind. He has devoted many years to archæological study, and is the author of several works on the subject. His immense private collection is on view at the Peabody Museum, Cambridge, Massachusetts. Dr. Abbott has left us the following record :—"I have examined the archæological collection of this Institute, and am delighted with it. Its value for scientific purposes is very great, and already there is gathered here the material for comparative study, so much needed by students of archæology. Collections of given areas as complete as possible, are the requirements for finally solving the problem of North America's aboriginal peoples; and I earnestly pray that not only the citizens of Toronto, but the Provincial Government, will be exceedingly liberal in assisting those who have made so admirable a collection as is here brought together."

The time of Prof. Putnam was so fully occupied in the performance of his duties as secretary of the A. A. A. S., that he had but little leisure to do more than make a few brief visits to the museum. The following sentence however, may be quoted from what he has written:—"I have found here very much of importance to me in my study of the skulls of American peoples." Prof. Putnam ranks among the first of American ethnologists and archaeologists, and it was exceedingly gratifying to receive from him, both orally and in writing, so high an opinion of the work that has been done.

It is a matter of some regret that Prof. Putnam's visit to the city did not occur a few weeks later, as during that time we more than doubled our collection of crania, several specimens of which exhibit notable peculiarities, one at least having the Inca bone well marked.

"THE LAND OF SOULS."

"We come from the Land of Souls, where all is sorrow, dismay, and desolation. Our fields are covered with blood; our wigwams are filled, but with the dead, and we ourselves have only life enough left to beg our friends to take pity on a people drawing near their end." Petition of the Hurons to the Andastes in 1647. Raguenaud, *Relation des Hurons*.

The vast number of communal and other burial places that may still be traced over the area formerly occupied by the Hurons, evidence the density of the aboriginal population and afford a reason for the poetic title given by the natives to their dying country, when they besought their kindred on the Susquehanna for assistance, nearly two-hundred and fifty years ago.

Having spent considerable time last June in the township of Nottawasaga for the purpose of mapping the district, marking the ancient village sites and ossuaries, and collecting specimens, I cannot do better than quote from Parkman, a brief description of that land and its people.

"In the woody valleys of the Blue Mountains, south of the Nottawasaga Bay, of Lake Huron, and two days journey west of the frontier Huron towns, lay the nine villages of the Tobacco Nation, or Tionnontates;* In manners as in language they closely resembled the Hurons. Of old they were their enemies, but were now at peace with them, and about the year 1640 became their close confederates. Indeed in the ruin which befel that hapless people, the Tionnontates alone retained a tribal organization; and their descendants, with a trifling exception, are to this day the sole inheritors of the Huron or Wyandot name. Expatriated and wandering, they held for generations a paramount influence among the western tribes. In their original seats among the Blue Mountains, they offered an example extremely rare among Indians, of a tribe raising a crop for the market; for they traded in tobacco largely with other tribes. Their Huron confederates, keen traders, would not suffer them to pass through their country to traffic with the French, preferring to secure for themselves the advantage of bartering with them in French goods at an enormous profit."†

If other reasons were wanting, the facts cited in the foregoing quotation are sufficient to interest us in all that pertains to a people so exceptional in many respects to other aborigines inhabiting this part of the continent. The axe and

* The district formerly occupied by the Tobacco Nation, and now included within the limits of Collingwood, Nottawasaga and Sunnidale townships, held, within recent geological time, a very different relation to the great fresh water sea from what it does at present. The proofs are everywhere abundant that the valley drained by the Nottawasaga River was at one time a prolongation of Nottawasaga Bay, connecting the waters of Lake Huron and Lake Simcoe, and bounded westwards by the gentle slopes of the "Blue Mountains," so-called; for the term is a misnomer, where we take into account that these elevations seldom if ever exceed 500 feet, above the lake level, and are cultivated from base to crown.

† Parkman, *The Jesuits in North America*. Introduction, p. xliii, 21st edition. Boston, 1885.

the plow are rapidly removing every land-mark; already many have been obliterated, but a large enough number remain to attest the truth of all that has been stated regarding the population, which was reckoned at from twenty thousand to thirty-five thousand.*

If we regard the nine villages or towns of the Tionnontates or Tobacco Nation, as having been of average population with the remainder of the thirty-two all of which were reckoned in 1639, to contain thirty thousand souls, it would appear that the population of the Blue Mountain district was not less than five thousand five hundred, but if we make allowance for the agricultural habits of the Tobaccos and their consequently less persistent warlike proclivities, it is probable that the number of the people fell little short of eight thousand, about the year 1640.

Even with half that number the country of the Tobacco Nation must have been well populated, when it is borne in mind how large an area is required for the support of those who depend more or less on the results of the chase for their livelihood.

Some of the ossuaries, or communal burial pits have been estimated by intelligent settlers who have opened them, to contain from five hundred to fifteen hundred skeletons. Making due allowance for exaggeration in viewing the spectacle of immense quantities of bones, without any effort to assort them or otherwise make an exact count, it seems to be capable of proof, that fully a thousand skeletons have been found in a single pit. One settler informed me that he had counted upwards of nine hundred skulls almost whole, and assured me that there must have been from one hundred to two hundred others in a fragmentary condition. Dr Taché of Quebec, writing to Dr. Parkman, says, "I have inspected sixteen *bone-pits*. * * * * *

They contain from six hundred to twelve hundred skeletons each." Most of these ossuaries, known locally as "bone-holes," are of post-European date and contained copper or brass kettles. Here, as in the township of Beverly (mentioned in a former report,) the pioneer settlers, or some of them rather, made it their business to open every known grave-pit, for the purpose of procuring these utensils, sometimes to the number of twenty or more from one place. All those I opened last summer had been previously ransacked, and I think I am safe in saying that it is now almost impossible to find within the ancient limits of the Tobacco Nation, or indeed any where in the old Huron country, an ossuary that has been left undisturbed.

Even, however, at the time when these burial-pits were first opened, many of them were totally devoid of anything save promiscuously interred bones, and we are thus brought face to face with the fact that it was *not* the invariable custom of the aborigines to deposit tools, utensils and ornaments with human remains, at any rate, during the latter days of savage existence in this part of the world. That the custom was much more prevalent in former times there is little doubt, but it is my own experience as well as that of others, that graves evidently of prehistoric date have been found wholly destitute of material for the use of the departed spirits. This may be accounted for either on the supposition that the bodies were hastily interred after some bloody affray, and in proximity to the enemy, by those who were defeated, or, that those who succeeded in maintaining

* "The number of the Huron towns changed from year to year. Champlain and Le Caron, in 1615, reckoned them at seventeen or eighteen, with a population of about ten thousand, meaning, no doubt, adults. Brébeuf, in 1635, found twenty villages, and, as he thinks, thirty thousand souls. Both Le Mercier and Du Quen, as well as Dollier de Casson and the anonymous author of the *Relation* of 1660, state the population at from thirty to thirty-five thousand. Since the time of Champlain's visit, various kindred tribes, or fragments of tribes, had been incorporated with the Hurons, thus more than balancing the ravages of pestilence which had decimated them."—Parkman, *Jesuits in North America*. Introduction—note, p. xxv.

their ground after an engagement thus buried the slain of the discomfited party. I am not aware that any such record exists, but nothing can be more reasonable than to conclude that the victors would hasten to bury the bodies of those who had been killed, especially when the fighting had taken place as it so often did at, or close to, a village, and when it involved less trouble and inconvenience to bury the dead than to strike camp and leave the bodies exposed. In the Huron country this must frequently have been a powerful reason, where clearings were made for simple agricultural purposes, and dwellings were erected of a more permanent type than that of the Indian who subsisted altogether by hunting.

Another reason suggests itself, namely, that numerous deaths as the result of sickness or war may have so depleted the living of personal property that nothing in many cases was left for mortuary offerings.

Account for it as we may, it is well at all events to disabuse the popular mind of a fallacy that has been confirmed by so many writers, leading to the belief that every Indian grave necessarily contains objects of human workmanship.

Nevertheless, the great feast of the dead was an occasion of vast importance when conducted according to traditional custom, and occurring as it did at intervals of several years. Brébeuf in 1636, was the first to describe fully the ceremonies attendant upon a communal burial at Ossossané or La Conception, the site of which was not far from the present village of Wyevale. The people inhabiting this district were the Attignauentans or Bear Nation, of the Huron confederacy, among all the members of which the practices were similar. From the *Relation* of Brébeuf, and from other sources we are tolerably well informed with regard to the ceremonies in question. Dr. Parkman's vivid rendering of Brébeuf's description may be quoted: "The body was usually laid on a scaffold, or, more rarely in the earth. At intervals of ten or twelve years, each of the four nations * which composed the Huron confederacy gathered together its dead, and conveyed them all to a common place of sepulture. Here was celebrated the great 'Feast of the Dead,'—in the eyes of the Hurons, their most solemn and important ceremonial. * * * * *

"The corpses were lowered from the scaffolds and lifted from their graves. Their coverings were removed by certain functionaries appointed for the office, and the hideous relics arrayed in a row, surrounded by the weeping, shrieking, howling concourse. The spectacle was frightful. Here were all the village dead of the last twelve years. * * * Each family reclaimed its own, and immediately addressed itself to removing what remained of flesh from the bones. These, after being tenderly caressed, with tears and lamentations, were wrapped in skins and adorned with pendent robes of fur. In the belief of the mourners they were sentient and conscious. A soul was thought to still reside in them; and to this notion, very general among the Indians, is in no small degree due that extravagant attachment to the remains of the dead, which may be said to mark the race.

"These relics of mortality, together with the recent corpses, which were allowed to remain entire, but which were also wrapped carefully in furs, were now carried to one of the largest houses and hung to the numerous cross-poles, which, like rafters, supported the roof. Here the concourse of mourners seated themselves at a funeral feast; and as the squaws of the household distributed the food, a chief harangued the assembly, lamenting the loss of the deceased and extolling their virtues. This solemnity over, the mourners began their march for Ossossané, the scene of the final rite. The bodies remaining entire were borne on a kind of litter, while the bundles of bones were slung at the shoulders of the

* The Tobacco Nation similar in language and manners, did not join the Huron confederacy until about 1639-40.

relatives like fagots. Thus the procession slowly defiled along the forest pathways with which the country of the Hurons was everywhere intersected; and as they passed beneath the dull shadow of the pines, they uttered at intervals, in unison, a dreary, wailing cry, designed to imitate the voices of disembodied souls * winging their way to the land of spirits, and believed to have an effect peculiarly soothing to the conscious relics which each man bore. When, at night, they stopped to rest at some village on the way, the inhabitants came forth to welcome them with a grave and mournful hospitality.

"From every town of the nation of the Bear processions like this were converging towards Ossossané. This chief town of the Hurons stood on the eastern margin of Nottawasaga Bay, encompassed with a gloomy wilderness of fir and pine. * * * * The capacious bark houses were filled to overflowing, and the surrounding woods gleamed with camp fires: for the processions of mourners were fast arriving, and the throng was swelled by invited guests of other tribes. Funeral games were in progress, the young men and women practising archery and other exercises for prizes offered by the mourners in the name of their dead relatives. Some of the chiefs conducted Brébeuf and his companions to the place prepared for the ceremony. It was a cleared area in the forest many acres in extent. In the midst was a pit about ten feet deep and thirty feet wide. Around it was reared a high and strong scaffolding, and on this were planted numerous upright poles, with cross-poles extended between for hanging the funeral gifts and the remains of the dead.

"Meanwhile there was a long delay. The Jesuits were lodged in a house where more than a hundred of these bundles of mortality were hanging from the rafters. Some were mere shapeless rolls, others were made up into clumsy effigies adorned with feathers, beads, and belts of dyed porcupine quills. * * * * At length the officiating chiefs gave the word to prepare for the ceremony. The relics were taken down, opened for the last time, and the bones caressed and fondled by the women amid paroxysms of lamentation. Then all the processions were formed anew, and each bearing its dead, moved towards the area prepared for the last solemn rites. As they reached the ground they defiled in order, each to a spot assigned to it on the outer limits of the clearing. Here the bearers of the dead laid their bundles on the ground, while those who carried the funeral gifts outspread and displayed them for admiration of the beholders. Their number was immense and their value relatively very great. Among them were many robes of beaver and other rich furs, collected and preserved for years with a view to this festival. Fires were now lighted, kettles slung, and around the entire circle of the clearing, the scene was like a fair or caravansary. This continued till three o'clock in the afternoon when the gifts were repacked and the bones shouldered afresh. Suddenly at a signal from the chiefs, the crowd ran forward from every side towards the scaffold, like soldiers to the assault of a town, scaled it by rude ladders with which it was furnished, and hung their relics and their gifts to the forest of poles which surmounted it. Then the ladders were removed and a number of chiefs, standing on the scaffold, harangued the crowd below, praising the dead and extolling the gifts, which the relatives of the departed now bestowed in their names upon their surviving friends.

"During these harangues other functionaries were lining the grave with robes of beaver skin. Three large copper kettles were next placed in the middle and then ensued a scene of hideous confusion. The bodies which had been left entire were brought to the edge of the grave, flung in, and arranged in order at the bottom by ten or twelve Indians stationed there for the purpose, amid the wildest excitement and the uproar of many hundred mingled voices. When this part of

* It is not easy to conjecture where they got their model for this imitation.

the work was done night was fast closing in. The concourse bivouacked around the clearing and lighted their camp-fires under the brows of the forest, which hedged in the scene of the dismal solemnity. Brébeuf and his companions withdrew to the village, where an hour before dawn, they were roused by a clamor which might have wakened the dead. One of the bundles of bones, tied to a pole on the scaffold had chanced to fall into the grave. This accident had precipitated the closing act and perhaps increased its frenzy. Guided by the unearthly din and the broad glare of flames fed with heaps of fat pine logs, the priests soon reached the spot, and saw, what seemed in their eyes, an image of Hell. All around blazed countless fires and the air resounded with discordant outcries. The naked multitude on, under and around the scaffold, were flinging the remains of their dead, discharged from their envelopments of skins, pell-mell into the pit, where Brébeuf discerned men who, as the ghastly shower fell among them arranged the bones in their places with long poles. All was soon over, earth, logs and stones were cast upon the grave and the clamor subsided into a funereal chant, so dreary and lugubrious, that it seemed to the Jesuits the wail of despairing souls from the abyss of perdition.* "

This most vivid and succinct description of one great burial ceremony may be regarded as being applicable in a general way to all other great feasts of the dead. It is probable that the various nations, composing the confederacy, differed to some extent in matters of detail, and there is reason to believe that in at least one important particular, the Tobacco Nation differed from the Hurons proper. Referring to the first disposal of the dead, as may be gathered from the foregoing extract, Dr. Parkman says, "The body was usually placed upon a scaffold, or, more rarely, in the ground." When we bear in mind the settled habits of the Tionnontates or Tobaccos and the somewhat limited area they had to occupy, we can readily see that the scaffolding of dead bodies was not so well adapted to them as to peoples who led a roving life over vast extents of country. I have accordingly found numerous evidences that among the Tobacco Nation, inhumation, was the prevalent, if not the sole mode of preliminary disposal. On many of the farms in the Blue Mountain district, the plough has brought to light human remains that had been laid in graves singly, and not far below the surface. On lot 19 of the 7th concession of Nottawasaga, Mr. Edward Beecroft informed me that there were on the front or west end of the farm about one hundred single graves, and twice that number on the rear of his property. On the same lot an extensive village had been situated judging by the numerous deep and widely spread beds of ashes, while not far away the manufacture of clay vessels and pipes had been carried on, as is shown even yet by proofs of the most unmistakeable kind. There is a large ossuary on the same farm within a short distance of the village site.

If, therefore, we regard the existence of the village as having been contemporaneous with the individual graves, and there is no reason to doubt this, we can understand why inhumation was preferable to scaffolding.

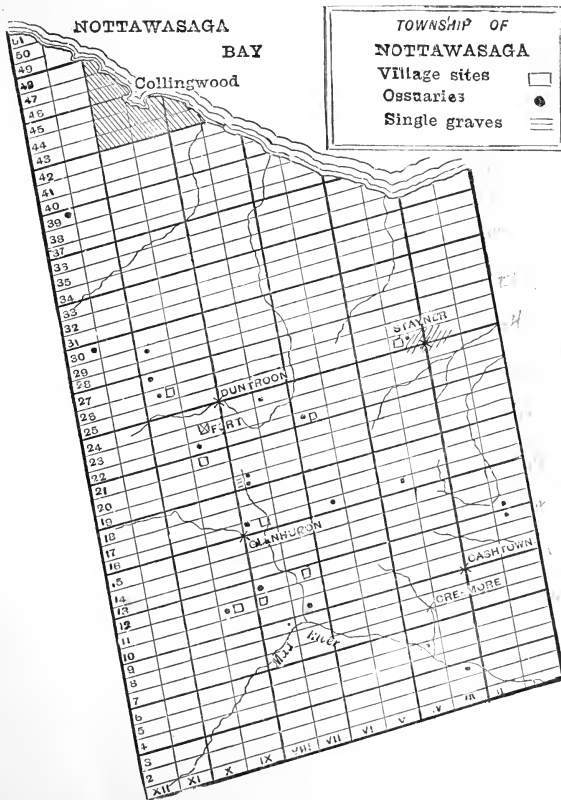
In the account of the great communal burial, quoted from Parkman, reference is made to the topography of the "cleared area in the forest, many acres in extent," and "in the midst [of which] was a pit, about ten feet deep and thirty

* Parkman, *Jesuits in North America*. 21st ed. Boston 1885. p. 72 *et seq.*

It is to be remembered that the description given by Brebeuf, is that upon which are based all the popular notions regarding Indian burials in this country. On the occasion in question there was considerable dissension among the Attignawaentons, or Pear Nation, whose feast of the dead he witnessed. A respectable minority consisting of three or four towns, refused to take any part with the others in this ceremony, and declared their intention to conduct one independently. This naturally caused ill-feeling between the dissentients and we are therefore warranted in assuming that on this account, those with whom Brebeuf was present conducted the proceedings with much more "braverie" than was their wont. No doubt the dissenting towns were actuated by similar motives. Is it right then, to regard this as having been a normally typi-

feet wide," but is to be noted that these burial pits are almost invariably found on the top of knolls and hills ; generally the highest ground within easy reach of the town or village. * Was this practice in any way connected with the mound-building predilections of other tribes ? Did our northern Indians cease to throw up great earth heaps for such a purpose because they found so many of natural formation ? Does the construction of mounds by people occupying more level areas in any way indicate the persistence of a habit formed by their ancestors in some hill country ? Or are both practices but the survival of some ancient custom of religious or other significance derived from common predecessors ?

During the time in spent the township of Nottawasaga, I endeavored to ascertain the position of every known locality associated with the Tionnontates, and succeeded in being able to mark upon the map ten village or town sites, twenty-one ossuaries, one fortified place, and three potteries. There are no doubt other places of which nothing could be learned, as the first settlers on many farms are now dead, and every surface trace has been removed in the course of cultivation. In almost every case I examined the places, and found in only two instances that spots which had for many years been popularly regarded as "bone holes," were but natural depressions, caused probably by the infiltration of water through the sandy subsoil which was little more than a foot below the surface.



* I have met with only one instance of a grave on low land. This is situated in the township of Humberstone, within a short distance of Lake Erie. The flat, near the middle of which the grave has been made, is of several acres in extent, and almost surrounded by sandhills of considerable height, from forty to sixty feet. Although pipes and other relics of Indian production have been found in this ossuary, it is suspiciously connected with "white" origin, as some of the skulls taken from it, and now in our possession, appear to be those of Europeans.

A reference to the map-diagram will show that all the locations marked extend in a direction from north-west to south-east, that is to say, corresponding with the range of hills that stretch through the township of Nottawasaga. The hills extend into Collingwood and Osprey townships, but time did not permit of these places being visited. The whole of this neighborhood should be examined carefully, as soon as possible for much of it is no doubt quite as valuable archæologically as any other portion of the Nottawasaga Bay district.

Beds of asks, blackened earth, fragments of pottery and bone, flint flakes and sometimes charred corn-cobs mark the village sites. Dr. Taché is said to have prepared a map of the Huron country (including probably the Tobacco Nation,) by means of which he thought he could identify many places with those mentioned in the *Relations*, but I am informed by Mr. Douglas Boymner, Dominion Archivist, that it has never been published.* A few of the places showing traces of habitation seem to have been mere temporary camping-grounds, where the quality of the clay and the proximity of water afforded facilities for the making of pottery and pipes; others, however, judging by their extent and the depth of the ash-beds seem to have been more permanent abodes.

One of the most interesting of these village sites is on the farm of Mr. William Melville, north half of lot 10, concession 5. The proprietor informed me that in the course of ploughing over this place he had turned up large quantities of corn and corn-cobs. William and David Melville, his sons, both intelligent collectors, have picked up several whole and fragmentary pipes, a few stone and shell beads, and an excellent bone chisel upwards of eleven inches in length.† All of these they presented to our collection.

On lot 12, concession 7, is the famous Lougheed farm, from the old site on which so much valuable material has been mentioned and figured in former reports. This year again we are indebted to Master Lougheed, for some very good specimens.

Two other villages occupied what are now respectively the north half of lot 11, concession 8, and the south half of lot 11, concession 9; immediately north of the former, on lot 12 concession 8, is an ossuary, and west of the latter on the same lot there is another. About midway between these and Mr. Melville's farm there is an ossuary on lot 10, concession 7.

Due east of the Lougheed farm, on the property of Mr. Thos. White, lot 13, concession 1, there are extensive indications of former residence. Broken pottery is plentiful and pipes of stone and clay have been found. Mr. White presented the Institute with several good specimens from his farm, chief among which is a well made bone chisel nearly a foot long. From the son of Mr. Ed. Coyle, on the adjacent farm, in the township of Sunnidale, we received some clay pipes found on Mr. White's property.

South of the White farm, there is an ossuary on lot 12, concession 1.

* A rude map purporting to show the topography of the Huron towns as they were in 1660, was published in the Canadian Journal, for November, 1887, to accompany a paper by Mr. John Langton, "On the Early Discoveries of the French in North America." It is too confused to be worth much, beyond enabling us to see that St. Michael was south of St. Louis, or St. John north of St. Ignatius, information that may be obtained more satisfactorily elsewhere. This map showing Creuxius' topography, is from Ducreux's *Histoire Canadiennes*, Paris, 1664. The Rev. Mr. Annis, of St. Thomas, claims to have located a few of the old Huron towns, but owing to the transient character of these Indian habitations, it seems impossible that we should ever be able fix with certainty the spots occupied at different times by the same people, and always known by the same names.

† Since this was written, Ah-yand-wah-wa, Ma-shuck-ah-wa-we-tong and John Settee, intelligent and educated representatives of the Ojibewa and Cree tribes on the Lake Winnipeg Reserve, paid several visits to the museum. They informed me that similar instruments are still used among their people for skinning purposes.

On the south half of lot 16, concession 4, and the north half of lot 16, concession 6, are ossuaries.

West of these on the lot 16, concession 8, the property of Mr. Conner, there is a village site from which his sons, Herbert and Theophilus have collected a good many specimens all of which they have sent to form part of our collection.

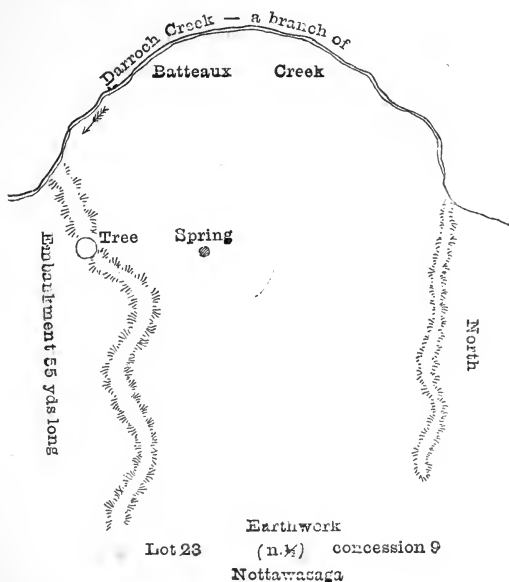
A little to the north, lot 19, on the same concession, is the Beecroft farm, on which are a village site, a pottery and a grave-pit, besides about three hundred single graves.

On lot 21, concession 9, is a village site, and on lot 22, immediately north, an ossuary.

Another village site is on lot 22, concession 5, the farm of Squire Currie, and not far away to the south-west are three ossuaries on the farm of Mr. John Edmonds, lot 21, concession 6.

There has been a village on lot 26, concession 10, on this lot there is also an ossuary.

Other ossuaries exist on lot 24, concession 7; lot 25, concession 8; lot 27, concession 10; lot 29, concession 10; and lot 30, concession 12.



On the farm of Mr. Wm. Anderson, north half of lot 23, concession 9, traces of an old village are visible on the face of, and near the top of a hill sloping towards the west, and at the foot of which runs a small stream known as Darroch's Creek, flowing into the larger Batteaux Creek. At this point Darroch's Creek makes a bend almost semi-circular and nearly encloses a strong spring. Between the base of the hill and the creek the land is low and level. From the extremities of the bend, banks have been thrown up stretching towards the high land. That to the north is now barely discernible, but the one on the south side can be easily traced for a distance of fifty-five yards, inclusive of its windings. In the construction of such earthworks no regularity was observed. When the nature of the ground offered any advantage the line of embankment was adapted to it, but in this case

the curves were evidently made to extend from one large tree to another; one of these is still standing, the others have disappeared, either in the partial clearing that has taken place, or in the course of nature. I was unable to discover whether this embankment had been palisaded, as I believe it was, if we suppose the construction of it had anything to do with the protection or defence of the spring.

The situation of this earthwork is remarkable. Usually we find embankments thrown up on higher ground, and serving to protect habitations; here the village was on the hill face, and overlooking the fortified enclosure. Perhaps the embankment originally extended up the hill, so as to surround the village. If so, it has disappeared during years of tillage.

The irregularity of the work points to a time anterior to French influence, for according to Brébeuf, the missionaries taught the natives of that neighborhood how to construct regular fortifications, having bastions and other European devices for defensive and offensive purposes.

Previous to this their palisaded embankments must have been far from strong, notwithstanding the enormous labor that was required to make them. The ground selected as a fortified dwelling place, was usually chosen on account of its natural advantages for defence, usually high ground at the confluence of two streams, or on a point formed by the sharp bend of a river. But other conditions were desirable. The soil should be loose and easily tilled; good clay for pottery and pipes should be within easy distance; the proximity of nut-bearing trees was not over looked, and a good spring of water was almost indispensable, for it is worthy of note that the Indians were evidently partial to spring water. Perhaps one reason may be found for this preference in the non-freezing quality of springs during winter. Another was no doubt the coolness of the water in summer, but in the depraved condition of their taste it is not likely they were influenced by any consideration of purity or flavor.

As has already been remarked, the labor required to build and fortify a village must have been enormous, and this mainly on account of the primitive tools employed. For edge-tool purposes stone was the chief material, copper more rarely. To effect a clearing of from five to ten acres in extent, fire was therefore to them a powerful agent, as indeed it is even to the white settler who is well provided with all "modern conveniences." Kindling a fire at the root of a tree, the charred wood was removed from time to time with their stone axes, so many of which are found all over this province, in common with many other places on the continent. These implements, of which small specimens are usually called "skinning tools," were fastened to withe or to crotched handles. They were generally plain, decreasing slightly in size towards the head or pole. This shape caused them to tighten in the handle when a blow was struck. The grooved axe was a much more elaborate affair, and few of them are found either in the Huron country or elsewhere in Ontario.

The work of clearing finished, much more of a similar kind had to be done, to procure the large number of small poles to form the walls of their houses, and larger ones for the palisading, unless we assume that many such were saved during the great burning. To dig holes for the reception of these must have been tedious and difficult. Splinters of wood, pieces of bark and flat stones served for picks and shovels. Then the earth had to be thrown up round the outside of the wigwam or the "longhouse," and a ditch two or three feet deep dug along the whole line of the palisades, both outside and inside, and thrown up to form a breastwork as well as to strengthen the hold of the posts in the ground. It is to be remembered too, that these posts were sometimes in two, three, or even four

parallel rows, those on one side of the embankment inclining towards those on the other, and crossing at the top where they were lashed to each other with pliable twigs and strips of tough bark. A platform of poles was laid to extend lengthwise, resting at the intersection of the palisades, and here it is said the defenders stood to pour water upon fires lighted by the besieging force to make a breach in the "wooden wall." Here also heaps of stones were piled, for use against the enemy at close quarters. In addition to the labor of erecting such a frame, the finishing touches must also have required much time and patience, for the palisades were covered to the height of six feet or more, with sheets of bark. As a whole, and considering the lack of good cutting tools, we cannot fail to be surprised at the amount of work the Hurons and other Indians accomplished, and the manner in which it was executed, although it would appear that in the art of fortification, the Hurons were excelled by their kindred the Iroquois.*

With regard to the extent and number of the aboriginal clearings in the Tobacco Nation's country, there has probably been some exaggeration. One writer has given it as his opinion that almost every square yard of land in that district, shows signs of a former clearance. It would be interesting to know what these signs were that persisted in showing themselves, after a lapse of two hundred years, now two hundred and forty. A farmer on whose property there is an old village site, told me that the trees growing upon it had smoother bark than those in the surrounding woods. I failed to observe the difference, but allowing it to be as represented, it proves too much, for even if the richer soil produced a finer bark, the coarser covering of the surrounding trees yielded no evidence of such an advantage. It is chimerical after so long a time, to look for surface indications of this kind, where the upturned roots of trees from three to four feet in diameter, sometimes disclose flakes of flint, broken pipes and fragments of pottery.

Still it is plain that the agricultural operations of the Tionnontates were comparatively extensive, for the density of the population made game scarce, and their chief food consisted of maize or Indian corn, raw or roasted, or boiled with flesh and fish. This grain they stored in caches or pits. The only evidence now existing of the use of corn are the charred cobs and grains found among the ashes of old dwellings.

Our knowledge of aboriginal vegetable diet is not very extensive, but it would appear that in addition to maize, they cultivated sunflowers, pumpkins and beans, all of which were probably introduced from southern sources. Wild fruits, especially plums, were moderately plentiful about the Georgian Bay, and the district is at the present time noted for its cultivated varieties of this fruit. Cherries, gooseberries, raspberries and strawberries, though not abundant were no doubt added to their scanty list of tid-bits, and beech-nuts could sometimes be gathered in considerable quantities. They no doubt made use of maple sap during early spring, but their traditional manufacture of sugar by boiling is a little dubious.

From a coarse hemp the women twisted strong cord or twine, which was used chiefly in making nets and constructing wigwams. From coarse grasses and sedges they wove mats and articles of clothing. Baskets were made in the same way and from similar material. In these were formed at least a few of the clay vessels, fragments of which are so plentifully found.

There is perhaps no single article of aboriginal manufacture with which the popular imagination so intimately associates the Indian, as the birch-bark

* "The forts of the Iroquois were stronger and more elaborate than those of the Hurons; and to this day, large districts in New York are marked with frequent remains of their ditches and embankments." Parkman, *Jesuits in North America*, Intro. p. xxix.

canoe, and the Hurons were adepts in the art of building this frail type of vessel. The capacity and strength of these boats when compared with their lightness, were wonderful. One man could with ease carry across a portage, a canoe large enough to hold five or six persons. Scattered remnants of these people continue to make birch-bark canoes, as is also the case with many Algonkin tribes who have lost the art of producing almost everything else that was characteristic of the stone age in America.

As might be expected, the Tionnontates displayed much ingenuity in the making of pipes. Those of clay were by far the more numerous, but many fine specimens have been found carved from stone. In size the bowls vary from that of a small thimble and of far less capacity, to upwards of three inches in length. In clay pipes the hole is often so small, that a modern smoker would require to fill one several times before getting a satisfactory smoke—in stone pipes the capacity is usually much greater. In form there is considerable variety, one of the most common patterns being the flared or trumpet-mouthed head; a second has the margin compressed, forming a heavy collar round the upper third of the bowl; another kind has a square mouth, and occasionally a specimen is found upon which the human face or whole form is represented.

It seems probable that pipes as well as tobacco were produced for commercial purposes. The pipes found in the country inhabited by the Attiwandarons along Lake Erie, are undistinguishable in any way from those that are so comparatively abundant in the district occupied by the Hurons. This is particularly noticeable in the square-mouthed pipes, which are of the least common type any where, and in the manufacture of which there appears to have been almost perfect adherence to a regulation pattern. Of course it is easy to suppose that peoples even so widely separated might conform in their tastes, as to designs, patterns and forms, but when it is taken into account that the Attiwandarons or Neuters had easy access to an unlimited supply of material for spear and arrow-tips, and that all the "flints" found in the Huron country appear to have come from this source, we may reasonably conclude that a system of exchange existed in these articles, and this supposition is strengthened, when it is known that extensive beds of flakings are found along the Erie shore, where the chert-bearing rock is most abundant.

Of the Tobacco Nation as distinguished from the Hurons proper, there is not a vestige left in Canada to-day. The last of the confederacy had to give way before the Iroquois, about 1652-3, when they were compelled to flee to Michilimackinac. Thence they were driven by their old foe to the islands in Green Bay, Michigan, and again from this place to the country of the Illinois. Removing westwards they reached the Mississippi, but the Sioux drove them away. They next found a resting place on Shaganigon Point, on Lake Superior, but this spot they had to abandon, and they returned to Michilimackinac about 1670-1. Their next move was southward to the neighborhood of Detroit and Sandusky, where they were known as Ouendots or Wyandots. Latterly they were removed to a western reserve, and it is now improbable that anything more than the name of Wyandot exists.

Thus has totally disappeared the Tionnontates or Tobacco Nation, a people who, although conforming in many respects to what we characterize as savage, were yet remarkable for their skill in the practice of much that is inseparable from civilization. Their relics scattered so profusely among the Blue Mountains attest the mechanical ability possessed by them, and the French missionaries leave us in no doubt respecting their agricultural and commercial tendencies. While we may not feel warranted in expressing a belief that by any inherent potentiality they would, if left unmolested, have ever reached a much higher

plane than that in which they were found by Brébeuf, yet it appears evident that but for the implacable enmity of the Iroquois they would, under European influences, eventually have ranked among the most progressive of American aborigines in the arts of civilized life.

In the townships adjacent to Nottawasaga, and indeed throughout the whole of the district occupied by the Huron nation, there is yet much to be recorded and considerable material to be collected. Meanwhile it is gratifying to be able to state that our cases now contain a moderately good representation of all that is procurable to illustrate the social condition of a nation which enacted so important a part in the history of Canada, whose hunting and war parties no doubt frequently trod the woods where Toronto now stands, and which, as Parkman says, was "once prosperous, and in its own eyes and those of its neighbors', powerful and great."

VILLAGE SITE AT CLEARVILLE.

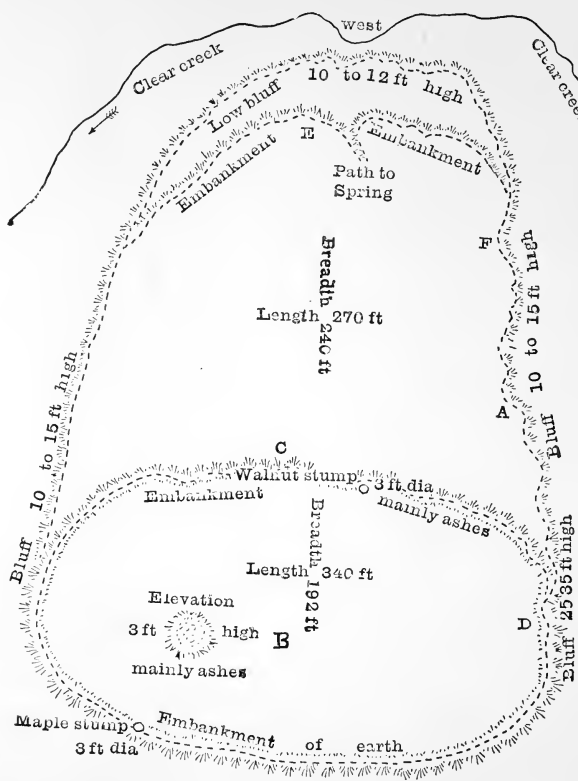
On receipt of information from Mr. Thomas Boon, of Bothwell, I visited Clearville in company with that gentleman on May 31. Clearville, once a place of some importance, is a little more than a mile from lake Erie, and is situated near the south-east corner of the township of Orford, in the county of Kent.*

What is known as the "Fort" lies about a mile due north of the village on the property of Messrs. Ridley and Bury. Clear Creek, passes through the farm, and at this point in its flow southwards makes a considerable detour round a low terraced table land, the slopes showing evidence of former higher levels in what must have been a much larger stream. The Indians had taken advantage of the situation for domiciliary and strategic purposes, for both of which it was well adapted. The sandy loam was fitted for the cultivation of corn, the creek supplied fish in abundance, walnut and chestnut trees were plentiful in the neighborhood, and, no doubt, game was easily procured. Here were all the requisites for aboriginal happiness if only protection could be assured against attack from enemies. To effect this the natural bluffs rising from ten to thirty or forty feet above the bed of the creek were utilized. A reference to the diagram will show how this was accomplished. There appear to have been two village sites occupying different levels, but it is not easy to say whether both have been used at the same or different times, or by the same people. The western embankment of the high level site consists chiefly of ashes, and it is probable the face of the natural bluff was made to serve as a place of deposit from the camp-fires. At any rate the materials are those of a kitchen-midden—shells, bones, skulls, broken pipes and pottery, and an immense quantity of ashes. At a point a few yards south of the walnut stump the ashes formed an almost solid bed to the depth of five feet from the surface. Four feet seven inches down we found several large fragments of what must have been very capacious clay vessels. These were proportionately thick and very coarse-grained, free from any ornamentation, and quite unlike many smaller and more delicately made pieces found higher in the deposit. The fragments of flint also appeared to indicate a different source of supply, as those near the top were of a uniform grey color, while the flakes found at the greater depth were of a lighter hue and streaked with narrow dark bands. From three to four feet from the surface were taken three skulls of the common deer, a human jawbone, and pieces of pottery.

*Mr. Archibald Blue, Deputy Minister of Agriculture, had previously directed my attention to this locality.

Beyond taking measurements and sketching a ground-plan nothing further was done at Clearville on this occasion, as permission was required to make a thorough examination of the ground.

Having received this from Messrs. Ridley and Bury, I returned on July 16th, again accompanied by Mr. Thomas Boon, who had previously, at my request, engaged men to dig. A drive of fifteen miles from Bothwell occupied some of the first day, and openings made in a number of places brought to light large quantities of coarse pottery fragments, some bone awls or needles, and several stones, one or more surface on each of which showed that they had been employed for rubbing, smoothing, or polishing other bodies. Subsequent operations lasting two days, yielded in addition to these a very fine clay pipe head of unique pattern, a small and rudely formed old pipe, the upper half of a clay pipe in appearance like



On the second day we turned up a skull on the face of the western embankment (marked C) at a depth of three feet. Decay had proceeded too far to make it worth taking away. The day following Mr. Boon laid bare two skeletons near the edge of the northern bluff overlooking the creek (at D). These also were too far gone for preservation. Other portions of human remains were found in various places. A few small and rudely formed slate chisels, two semicircular flint "scrapers," a number of implements made from deer-horn, some unio shells, most of which were worn on the edge, as they had been used in scraping bones, were also found here.

Human remains, much decayed, were found also at A. Here there were two skeletons lying in a north and south direction, not deeper than one foot from the surface.

Mr. Blue and Dr. Bryce afterwards discovered another grave near F, but the bones were too far gone for preservation.

On the third day my sounding rod struck a "soft place," (B) which, on examination, turned out to be a grave containing the skulls and limb bones of eight persons. No ribs or other small bones were found, so that this was evidently a case of second burial. The leg and arm bones had been first thrown into the hole, and above these were placed the skulls in a cluster, without any arrangement, some lying face down, and others on one side. Five under-jaws were found. The distance from the surface of the ground to the uppermost skull was barely two feet.

When compared with those we had previously unearthed the remains in this pit were quite fresh, although some of the femora were more decayed than others, looking as if they had been underground a longer time. All these skulls were secured and are now in the museum, as are also specimens of the femora and tibiae.

The examination of this ground was peculiarly interesting from the fact that not a vestige of European presence or influence was met with over the whole area, and numerous evidences led to the conclusion that the place must have been occupied at widely separated periods by at least two, and perhaps by three different tribes.

The earthworks, I take it, were the work of those who first perceived the advantages of the situation. At one point on the embankment near the creek (E) traces of posts or palisades were discovered, and it is probable that the whole of the lower plateau, as well as the higher one, was thus enclosed. The broken pottery found near the base of the middle embankment (C) were large and coarse and without ornament, and the flint-flakes were different in color and appearance from those nearer the surface. The houses of these people would occupy the enclosed spaces, and in accordance with this we find beds of ashes at depths varying from two to four feet, and alternating with thin layers of sand all over the area in question. A bed of ashes four feet from the surface was found below the eight skulls and other bones already mentioned. The deepest of these were probably left by those who threw up the earthwork, and this view is confirmed from the correspondence in appearance between the potsherds and flint-flakes found at the greatest depths here, with those found deep in the embankment.

By the time the second people took possession it is likely that every trace of former occupation had disappeared, and the new arrivals erected their tents or wigwams close to the middle bank on the higher, or easterly side, finding the western slope convenient as a dumping-ground for refuse. Along the central portion of the bank, north and south of the walnut stump, ashes and earth are intermingled with splintered bones, tips of deer-horn, broken shells, skulls of deer, beavers' teeth and even human remains. Unless we attribute the presence of the last mentioned to accident we shall have to accept it as evidence of cannibalism, for many of the smaller bones are split, while others are wholly or partly charred. The broken pottery found in the midden is finer than what comes from a greater depth and is relieved with simple patterns, although greatly inferior to what we see from many other places.

With few exceptions all the flint and bone specimens we found would be regarded in Europe as belonging to the palæolithic age. Even the slate chisels have scarcely more rubbing done to them than was required to produce a cutting edge.

The grave in which the eight skulls were found, I regard as being comparatively recent, and the work of a third people. Aside from the freshness of the remains in this ossuary, it is not reasonable to believe that those who fortified the place would bury within the enclosure. In addition to this the existence of ashes below the bones goes to show a more ancient possession of the spot by others. A single unio valve, worn on the edge as if it had been used as a scraper was the only thing in the grave besides the bones, and, judging from its position, its presence was probably accidental.

Although the Clearville site did not yield much of what goes to make a museum attractive, it is, nevertheless, one of the most interesting localities I know of in Ontario, on account of its situation, its three-fold (?) occupation, and its perfect freedom from even the slightest trace of the white man. Amateur collectors have at various times made openings and procured relics, and it may be that they have met evidence calculated to upset the non-European view, but I can hardly think it possible that if ever white intercourse had taken place, some proof would not have come to light in the course of our making so many openings.

The diagram of the Clearville village site is not to be regarded as having any pretensions to accuracy, although the relative proportions are correct. The measurements of the spaces enclosed by the embankments are from outside to outside, as nearly as could be ascertained. The height of the bluffs is given approximately.

Mr. Henry Watson, township clerk of Orford, and Mr. Ridley of Clearville gave material assistance to us.

TOWNSHIP OF HUMBERSTONE.

On the 12th of August Mr. Jas. Bain and myself constituted a self-appointed delegation of the Institute, and accepted an invitation from Mr. Peter McIntyre, captain of a Memphis (Tenn.) camping club near Port Colborne, to examine a quantity of Indian relics that had been discovered when digging a hole to plant a flag-pole.

I had previously written to Mr. McIntyre hoping to secure the specimens for preservation in our collection. His reply indicated uncertainty as to the ultimate disposal of the find, but expressed a wish that representatives of the Institute should, meanwhile, see what had been unearthed. We were received with genuine southern hospitality by the members, numbering about eighty, of the "Solid Comfort Club," and had the pleasure of examining several skulls, a few clay pcts, some clay pipes, wampum, stone tomahawks, and a considerable quantity of material of European manufacture including glass beads, iron and copper bracelets, and iron hatchets. While rejoicing heartily with our American friends over the happy discovery they had made, our pleasure was not unmingled with a few degrees of envy, especially when we contemplated the possibility of these objects being taken away from the province, although we have reason to hope that some, or all, of them will yet find a suitable depository with us.

As illustrative of the value set upon articles of an archæological nature by Americans, it may be stated that almost immediately after the discovery was

made at "Solid Comfort" camp, a highly influential deputation consisting of "honorables," municipal officials, and medical gentlemen arrived from a neighboring city in the United States to secure if possible, the "find" for their museum.

We did not return, however, from this locality empty-handed, for by a previous arrangement we met our old friend Mr. Cyrenius Bearss who has always taken a warm interest in our project, and has made himself correspondingly active in supplying information and procuring specimens. Through his instrumentality we succeeded in adding several valuable stone and other relics to our collection. These include, a very fine gouge from Mr. Gustav Utz; a tube and two cutting implements from Mr. William Michener; a bird-formed amulet (?) from Mr. George Muma; a large shell and some wampum from Mrs. Barney, senior, and two clay pipes from Mr. Isaac Bearss, Mr. C. Bearss himself presented us with a number of valuable specimens all of which are now in our cases.

— TOWNSHIPS OF YORK AND VAUGHAN.

On the 5th of September, in company with Drs. Orr and Noble of Maple, Wilson of Richmond Hill, Orr of Toronto, Watson of Sherwood, the Rev. Mr. Rutledge of Richmond Hill, and Messrs. Smelser of Vaughan. I visited a village-site on a farm in the township of York. Mr. Miller the tenant was engaged in ploughing a field which had formed part of the aboriginal village ground, and a large quantity of broken pottery was picked up by the members of our party, who were well supplied with spades, and who managed to dig to a depth of two or three feet over a considerable area in the most promising places.

Many of the fragments were those of large vessels—from ten to twelve inches in circumference, and proportionately deep. A few days before this Dr. R. Orr was fortunate enough to find at this place enough fragments of an unusually large vessel, to complete the rim, and show the form of the body. Its dimensions are, externally: diameter at lip, 14 inches; greatest diameter at swell of body, 17 inches; depth, 17 inches. The upper edge of the lip is formed by four arcs making depressions about half-an-inch below the level of the points of their junction which are not equi-distant. The edge is relieved with a series of diagonal markings, and a border two inches wide consisting of upright and oblique linings surrounds the margin. Considering the enormous size of this vessel its form is not devoid of gracefulness, and the material is thinner than might be expected. Two holes about an inch apart have been bored on each of two opposite sides not far from the top. At first sight these suggest a means of suspension, but the existence of other holes lower down is puzzling, unless, indeed, we suppose that they were made for the purpose of binding fractures by means of thongs, as, in most cases, the hole is close to a broken edge. Had the crack appeared subsequent to the boring, it would most probably have passed through the hole.

Some of the pieces obtained by us were of pots nearly as large, and ornamented with a similar pattern. A very unusual kind of lip was found here. Portions of the margins have been bent inward making the outside convex, and forming a sharp angle on the inside.

The markings on all the fragments picked up at this place are good, and many of them are of unusual designs. A small and plain clay cup was turned up. Although not perfect, it is sufficiently so to show what it looked like when new. It is three inches in diameter across the mouth, and one inch and a half deep, the slope of the sides making the bottom only about two inches in diameter.

Flint-flakes appeared, but only one finished arrow-tip was found. This was procured from Mr. Miller who turned it up with the plow.

A few bone awls, more or less perfect, a number of tarsal bones of the deer and some portions of human skulls were found among the ashes.

From the same farm we procured through the kindness of Mr. James Lawson earlier in the season, a very fine mill or mortar. It weighs upwards of two hundred weight, and has four hollows worn deeply by grinding.

Although, so far, no ossuary has been discovered near this village site, it is certain that one exists not far away—probably in the woods close by, but a search made by us failed to locate the spot.

For many years an ossuary has been known on lot 12, con. 3, Vaughan, and once or twice superficial openings had been made in it. After leaving the village site we determined to examine this place thoroughly, with the consent of Mr. Keffer the proprietor which was kindly given. Mr. Keffer also did everything he could to facilitate the work while it was in progress.

We uncovered a portion of the surface, and reached the bones at a depth of three feet, but the presence of water compelled a stoppage for the day. As it was evident that our amateur digging would not enable us to master the difficulties, Dr. R. Orr kindly undertook to procure two professional spadesmen for the following day, when with the aid of a pump we were able to examine the contents thoroughly, as well as to ascertain the extent of the pit.

This ossuary presented a number of peculiar features which it may be well to note. Usually these communal graves occupy the highest knoll within easy reach of the village, and light, sandy soil was considered preferable, but in this case the ossuary is not on the most elevated point, and the soil consists of an exceedingly tenacious clay. Overlying the bones was a coating of light-colored "hard-pan" about three inches in thickness. This clay had evidently been employed to cover the bones uniformly, and probably the sides of the pit had been plastered with it also, thus accounting for the quantity of water we found it necessary to pump out.

Then, again there is considerable diversity in the type of skulls in this ossuary. Not only are there the long and short varieties, but many of them have an abnormally large occipital development.

As in other ossuaries, there did not appear to be any special arrangement of bones, except that here and there the skulls were placed in groups of half-a-dozen or more, but lying base up, crown up, or side up. Not a vestige of anything artificial was met with. The diameter of the pit was fully twelve feet and Dr. R. Orr estimated the interments at not fewer than one thousand. We procured for our collection from this place (including a few presented by Dr. Orr) upwards of fifty skulls all more or less perfect. Should time and opportunity permit it is intended to give in next report the measurement of these, and of the other crania in the Museum.

NOTES.

BY DAVID BOYLE.

POTTERY.

In no department of "Primitive Industry" (to borrow the title of Dr. Abbott's interesting book) does our museum continue to afford so scanty a representation as in perfect specimens of aboriginal plastic art. We have accumulated a considerable quantity of fragments bearing a variety of patterns, but nothing like a whole vessel has been added to our collection since last report. The nearest approach was the small cup picked up by Dr. Orr, in York Tp., on the occasion referred to on a former page. This specimen, Fig. 1, is exceedingly plain. There is not the

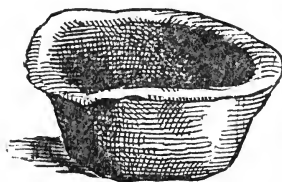


FIG. 1. ($\frac{1}{4}$ Size).

remotest attempt at ornamentation. Many of the sherds, however, found on the same site are lined and dotted in various ways. Other good specimens were procured from the farm of Mr. Thos. White, Nottawasaga, and from the Ridley and Bury property, Orford Township.

Sometimes a certain pattern of ornamentation is found more frequently in a given locality than any other pattern. On the Murray farm, York Township, already mentioned, amid a variety of designs, that shown at Fig. 2 was the most common. A heavy band formed the upper portion of the vessel. This was scalloped or crenated on the lower edge. Near the upper and under edges of the collar parallel lines were drawn all round, and between these the pattern consisted of upright and diagonal lines.

Early in the season Mr. John McPherson, of this city, brought from his summer residence on Mindemoya Island, in a lake of the same name in the

Island of Manitoulin, a number of fragments that were remarkable for the fine quality of the material and the character of the ornamentation. These, when put

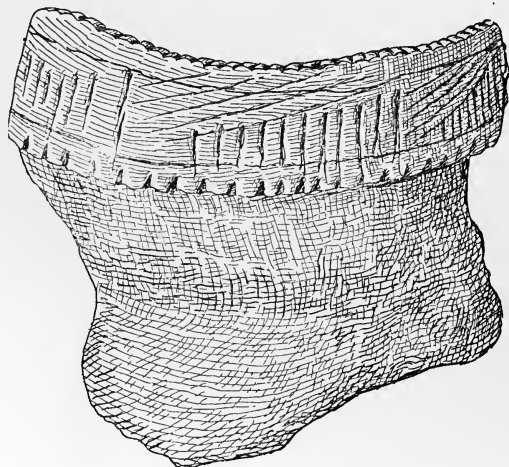


FIG. 2. ($\frac{1}{2}$ Size.)

together, revealed the shape and proportions of a vessel so handsome in form and so unique in design, that I have dignified it with the name of the Mindemoya Vase.

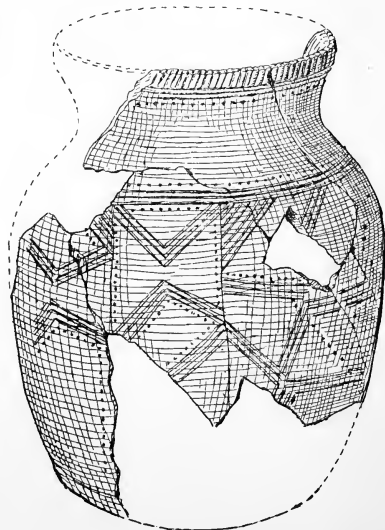


FIG. 3. Mindemoya Vase.

The surface has first been divided into sections by means of straight lines drawn from the upper part of the body to the base. Between these lines the

design consists of triangular and lozenge-shaped figures chiefly bounded by three parallel lines. It is to be observed that these have not been made by any tool that would produce the desired effect at one draw, for, although in the main approximately equidistant, there is not the exactitude that would result from fixed teeth or projections having been employed. Each line has been drawn singly with considerable care and patience, just as have the two series that surround the neck, above and below.

Its measurement when perfect would be 5 in. dia. at the mouth, 7 in. at the widest part of the body, and about 9 in. in height.

The gracefulness of outline displayed in the Mindemoya Vase must appeal to the artistic conception of beauty. In this respect it is equal to the best specimens found anywhere else on this continent, and will compare, not unfavorably with the ancient vessels that have been unearthed in Europe and Asia Minor.

The grain of the fracture, though coarse, is still much finer than is ordinarily the case with Indian pottery, and the material thinner, harder, and more uniform in thickness than is usual. The surface is very smooth, and almost as true and as free from traces of manipulation as if it had been made on a wheel.

It is to be regretted that Mr. McPherson did not succeed in getting all the fragments of this peculiarly interesting vessel, but owing to the situation of the find, beneath the roots of a stump, there is still a probability that further careful search may bring the remainder of the pieces to light.

CLAY PIPES.



FIG. 4. ($\frac{3}{4}$ Size.)

This quaint-looking pipe-head is from the township of Humberstone, where it was found by that intelligent collector and friend of the Institute, Cyrenius Bearss. In spirit and execution it is totally unlike any other specimen in our cases. The cheeks are broadened until they merge imperceptibly into large ears, the edges of which are united by means of four lines across the back of the head. The eyes are made by small depressions round which the clay forms an elevated ring or collar. The mouth is simply a small round hole somewhat larger than those of the eyes. The representation of lips has been neglected. The nose is prominent but damaged at the point. The eyebrows are sharply brought out. The outside diameter at the mouth of the bowl is one inch, and the total length of the specimen is one inch and a quarter.



FIG. 5. (Full Size.)

The finest specimen of handiwork found on the Clearville site last summer is here figured. Enough of the neck remains to indicate that the face looked towards the smoker. Unfortunately the nose is broken, and only the outline of its extent on the face remains. Unlike Fig. 4, the eyes are simply holes, and pains have been taken to form lips. The eye-brows and cheeks are well modelled. The projections for ears are crude, and each is penetrated by a small hole. The band forming the head-dress is peculiar.



FIG. 6. (Nearly full size.)

In common with the greater number of our best clay pipes, that represented in Fig. 6 is from the Township of Nottawasaga. From the curve to the

lips of the bowl this specimen is unusually long. The marking, too, is unlike the prevailing style. Two plain lines surround the upper portion of the bowl, and between these there are four pairs of upright lines, two of which (one each of two pairs) are shown in the engraving. The specimen is of a bright ochre tint, and does not appear even to have been in use. As is the case with a good many specimens that are found where they were made, it was probably broken in the process of burning. It was presented by Master David Melville.



FIG. 7. (Nearly Full Size.)

In form and ornamentation this pipe is unlike any other in the museum. The bowl is capacious and the sides are thin. The lines and dots are quite different in order and arrangement from the normal patterns. It was found on an old village site near a branch of the Don on Bræside farm, Richmond Hill, and presented by Mr. David Boyle, sr.

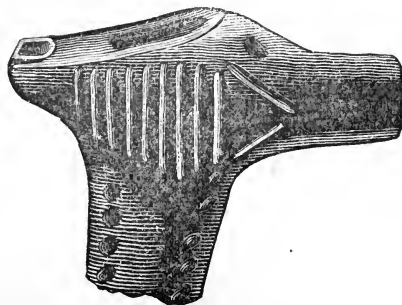


FIG. 8. ($\frac{2}{3}$ Size.)

This pipe bowl is from the Loughed farm, Nottawasaga. The engraving does not bring out all the details. The bowl hole should be shown as circular, and a deep cut marks the mouth almost meeting the two oblique lines beneath the eye. The nose should also be longer. As an imitation of some animal form, it is per-

haps meant for a fox. The break is too near the head to enable one to say how the stem turned, but it was probably in the direction of the face.



FIG. 9. ($\frac{3}{4}$ Size).

The style of rude art shown in Fig. 9 is totally distinct from anything else in the museum. It is indescribable, and is not well brought out in the cut. When perfect the face must have looked down upon the stem at an angle of 30° . The face consists mainly of three cavities, containing mouth and eyes, which are deeply impressed at the bases. Viewed from underneath it has a laughing appearance. From the farm of Mr. Thos. White, Nottawasaga. Mr. Edward Coyle.

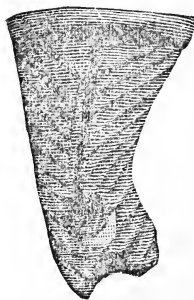


FIG. 10. ($\frac{3}{4}$ Size.)

This pattern of pipe is unique, so far as I know. Although the hole is almost circular, the outline of the exterior at the mouth is oval, measuring from front to back $1\frac{1}{4}$ in. and from side to side $1\frac{1}{2}$ in. One side is shown in the cut. An inch and a quarter from the lip the shorter diameter is still further compressed to $\frac{5}{8}$ in., the measurement from side to side remaining the same. Longitudinally the head is divided by upright lines into four equal parts—one

of them is shown above. These are connected by diagonals. Nottawasaga Tp. David Melville.

It is somewhat singular that although no other clay pipe of a similar shape had ever found its way into our collection, the finder of the specimen shown at Fig. 10 was fortunate enough to find the stem of what was evidently another pipe made after the same pattern. It was intended to give a figure showing the resemblance between the head figured and the stem here referred to, but as the engraving was not ready its presentation must be deferred. In the case of the stem the ornamentation has been, however, somewhat more elaborate than on the pipe head, for the lines are more numerous and more carefully made, and a series of dots on the lower side relieves the pattern. The toothed edges are neatly moulded.



FIG. 11. (Full Size).

Although the original of Fig. 11 is imperfect, the cut does not do it justice. It is meant no doubt to represent the head of a snake, and is, in this respect somewhat like No. 90 in Case S. The jaws, however, are reversed in this specimen. Fig. 11 was found in the Nottawasaga, and was presented by Mr. Angus Buie.

STONE PIPES.

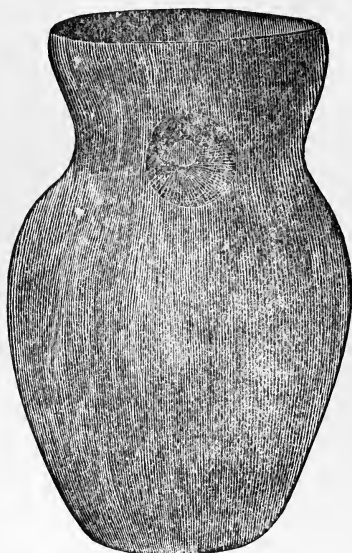


FIG. 12. (Nearly Full Size.)

Fig. 12 represents what is the heaviest if not the most elegant pipe in the collection. The material is a light grey, veined marble. Originally, no doubt, smooth, it is now very rough on the surface, looking as if it had been long exposed to the action of the weather. Notwithstanding the size of the specimen the bowl is remarkably small, as the hole (whose greatest diameter is only $\frac{3}{4}$ in. and narrows rapidly) is less than an inch and a quarter in depth. The wall of the bowl is from $\frac{3}{8}$ in. to $\frac{1}{2}$ in. in thickness. In cross section this pipe is somewhat oval, the longer diameter being at right angles to the stem hole.

It was found on Bræside Farm, near Richmond Hill, by Alexander and Arthur Boyle, children of the proprietor.



FIG. 13. (Nearly Full Size.)

The smallest stone pipe in the museum is illustrated at Fig. 13. It is well made and resembles in shape some that we have much larger. The stem-hole

enters the lower triangular portion. This diminutive specimen is from the Qu'Appelle River Valley, N. W. T., and was presented by Mr. Jas. C. Stokes, Reeve of King Tp.

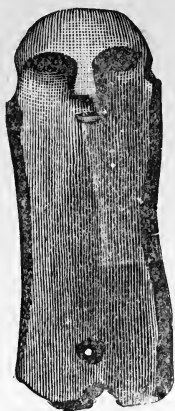


FIG. 14. ($\frac{3}{4}$ Size).

Fig. 14 is a somewhat rude attempt to imitate the human face, on a stone pipe bowl. The marks of the workman's tools are still apparent in this specimen. A first attempt to bore a hole at the base has proved a failure, and a second beginning has been made immediately above on the side shown in the cut. The stem hole enters below the middle on the opposite side. The bowl is thin, and is brought to a sharp edge at the lip. Hubert Conner, Nottawasaga.



FIG. 15. (Full size.)

Fig. 15 illustrates an unusual attempt at variation in the form of stone pipe-heads. Apparently the design of the workman has not been completed, for the projecting portion on the upper half is a rough and unfinished representation of a human face. The stem hole enters from the opposite side. This specimen was

procured from Mr. Ed. Coyle, Sunnidale, but it was picked up from the village site on the farm of Mr. Thomas White, Nottawasaga.

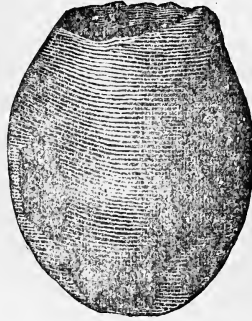


FIG. 16. ($\frac{1}{2}$ Size.)

Fig. 16 must have been when perfect a beautiful piece of aboriginal handi-craft. It is made of serpentine, and contains large crystals of iron pyrites which have been carefully rubbed down uniformly with the body of the material. Fig. 16 is given here chiefly on account of its having two stem-holes. This pipe was found on the farm of Mr. Duff, Nottawasaga, and was by him presented to the museum.

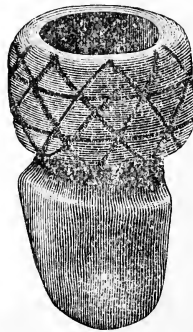


FIG. 17. (Full Size.)

This very handsome stone pipe was presented by Wardie and Ottie White. It was found at Lambton Mills, York Tp. It is nearly perfect in every respect. The material is a fine, light brown sandstone. The stem-hole is bored immediately below the central groove, on the right hand side of the engraving.

FIG. 18. ($\frac{1}{4}$ Size.)

Specimens of the "white stone" pipe are rare in Ontario. Fig. 18 illustrates one of two in the museum. It is $5\frac{1}{2}$ in. long, considerably weathered, and has what appears to be the head of a bear or dog on the inner edge of the bowl. This pipe was found on the Lotteridge farm, near Hamilton, a spot from which large numbers of valuable relics have been procured.

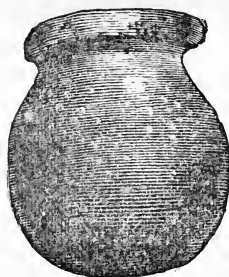


FIG. 19. (Full Size.)

To Mr. Dugald Currie, teacher, Creemore, we owe the pipe here figured. It is very well made, the chief defect in its form being in the flared tip, where, no doubt owing to a want in the material on one side the prominence is less than elsewhere. Two parallel lines (not shown) surround the bowl, which in cross sections is rather oval than circular. A hole for suspension has been bored through the bottom, below the stem hole on the left side of the illustration. The material of this pipe is steatite

BONE AND HORN.



FIG. 20. (Full Size.)

Fig. 20 is a somewhat rare form of relic in anything like a perfect condition, and even fragments are not common. This specimen formed part of the collection presented to the museum by Mr. James Dickson, of Fenelon Falls, and was found in the county of Victoria. The form is extremely suggestive of Eskimo

influence or contact, and some force is added to this conjecture from the fact that we have a small walrus tusk found in the same locality.

This specimen, in any event, must be classed among those of comparatively recent date.

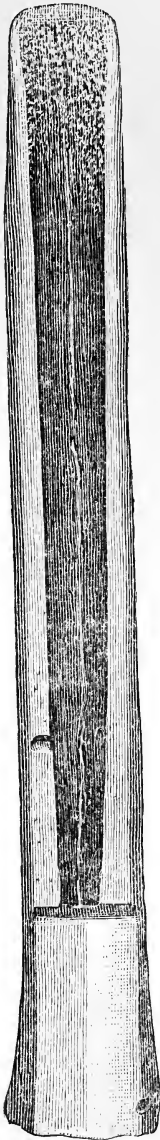


FIG. 21.

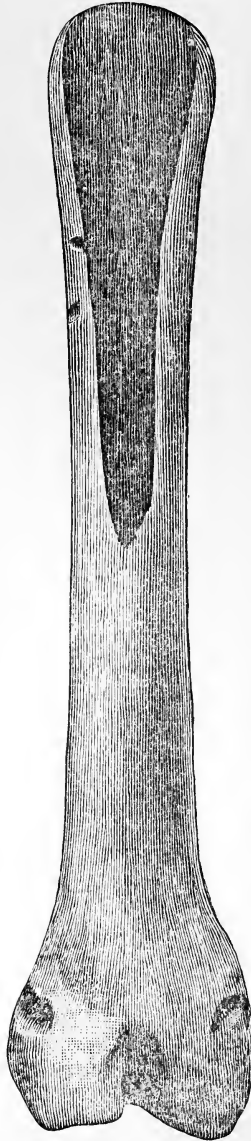


FIG. 22.

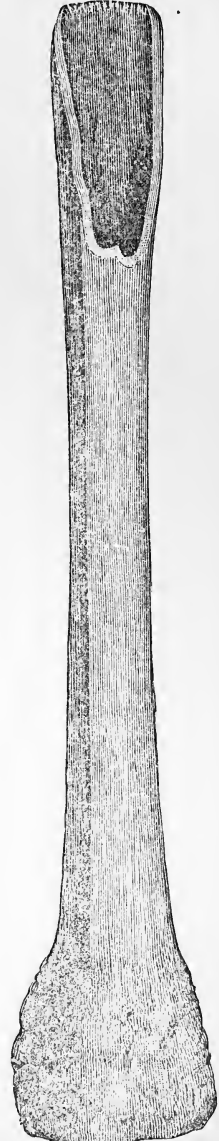


FIG. 23.

The specimen here figured (21) is an exceedingly handsome one, and measures $11\frac{3}{4}$ inches in length. The bone of which it is formed is almost square in cross section, and the workmanship is so well done as almost to lead one to the conclusion that steel tools must have been used in reducing the material to its present shape. The side shown in the engraving has been neatly shouldered down near the head

where the bone is an inch and a quarter thick, and has been made to taper until a good cutting edge is formed at the opposite end.

This tool was found on the farm of Mr. Thomas White, Nottawasaga

Within a few miles of the same place another similar implement was found on the farm of Mr. Melville, by whose son it was presented to the museum. It is shown at Fig. 22. In this case the workmanship is not so good, although the specimen is equally interesting. The bone, in cross section, is oval, and no pains have been taken to modify the knuckle or joint processes that form the head. No attempt has been made to form a shoulder as in Fig. 21, as the upper side shown has been ground in a uniform line to produce an edge at the mouth. It is somewhat shorter than Fig. 21, measuring only $11\frac{1}{4}$ in.

Some light was thrown on the probable use of these implements, by Messrs. Ah-yan-dwa-wa and Mah-shuck-a-wa-we-tong, two Indians from St. Francis' Reserve, Manitoba, who visited the museum during the fall. They stated that similar tools are still in use among the tribes in the North-west for the purpose of skinning or of dressing skins, and these gentlemen promised to send us specimens of those that are thus employed.

Since that we have been presented by Major J. M. Delamere of this city, with one of the North-west specimens, which is represented at Fig. 23. Like Fig. 21 its cross section has been ground square, and like Fig. 22 the original joint formation at the head is left intact—indeed a good deal of cartilage is still adherent to that end. It differs, however, from both of these at the mouth, where a number of shallow notches have been worked on both sides lengthwise giving the cutting edge a serrated appearance. For scraping purposes this device would prove serviceable. Major Delamere's specimen was procured from near Battleford. It is $14\frac{1}{4}$ in. long, and at the thickest part of the squared portion measures $1\frac{1}{4}$ in. The taper extends only $4\frac{3}{4}$ in. from the lip.

Among a number of articles recently presented by William and David Melville is a small tool, somewhat imperfect, of the same type as these.

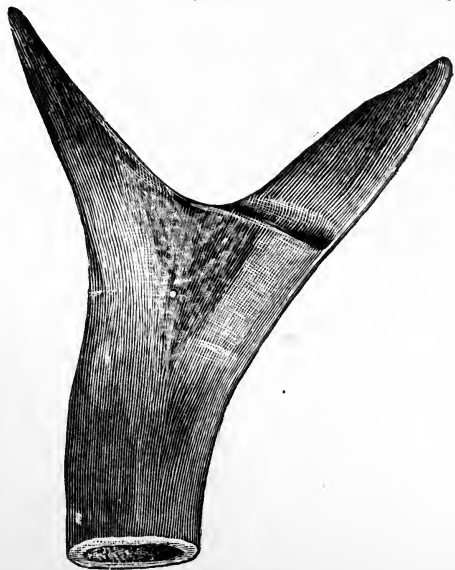


FIG. 24. ($\frac{2}{3}$ Size.)

Fig. 24 represents a forked deer-horn prong, the marks upon which tell their own tale. The abraded hollow as seen in the cut on one branch has a corres-

ponding depression on the opposite side of the other. It seems evident, therefore to have been held in the hand by the squarely cut end, and to have been used for rounding or smoothing thongs and sinews in a state of tension as the material passed over one part and under the other while the tool was moved briskly backwards and forwards. It is from Humberstone Tp., and was presented by Mr. Cyrenius Bearss.

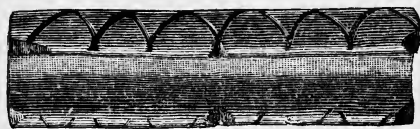


FIG. 25.

Fig. 25 is a piece of bone $2\frac{3}{4}$ in. long, and $\frac{7}{8}$ in. at its greatest diameter. A deep hollow runs along the side shown in the engraving. From edge to edge of this hollow, round the opposite side fourteen lines are deeply cut diagonally, the seven from the one side crossing those from the other and forming a lozenge pattern. The bone is cut smoothly and squarely off at both ends and has a semi-lunar hole through it. Lambton Mills. Wardie and Ottie White, Toronto,

FIG. 26. ($\frac{2}{3}$ size.)

A few bones similar to Fig. 26 are labelled in our cases as "Tally" or "Record" bones. The fact that these are notched slightly, crosswise, in one or more rows, naturally suggests keeping count of something; scalps, captives, number of men in a band, days' travel, etc. Having counted the notches on all the specimens of this kind (about half a dozen) in our possession, it was interesting to note that none exceeded twenty-nine or thirty, that one had two rows of fourteens, and that another was arranged in sevens, the total amounting to twenty-eight.

In Fig. 26 there are two rows of notches, twenty-eight in each row. These are delicately cut along the crowns of the two ridges that extend from the cylindrical body of the bone to the joint. As reckoning time wholly by "moons" was common to the Indians with the uncivilized of all countries, the maximum of marks on these bones might lead one to regard such specimens as simple calendars, or, perhaps, rather as mnemonic aids relating to days past. On the latter supposition, we should not, of course, expect to find the groups of markings exceed twenty-eight or twenty-nine, and any less number could be easily accounted for.

With so small a number of specimens to compare, it would be rash to write with assurance on this point, but it is to be desired that those who have "Tally" bones will examine them carefully, and inform us of the result. It is needless to say that we will be glad to receive specimens that tend either to confirm or to disprove the view suggested.

Fig 26 is a very fine specimen, squarely cut at one end, and exceedingly smooth. Near the ridged and marked end it is stained green owing to contact with copper. I found it along with some native copper beads in Tremont Park, Tidd's Island.

FLINT.

FIG. 27. ($\frac{3}{4}$ Size.)

The specimen figured here is of an unusual type. Our collection of "flints" is large, but this is the only one of its kind we have. It is from the Miami Valley, Indiana, and formed part of the collection of Mr. C. J. B. Ratjen, of Lawrenceburg.

STONE TUBES.

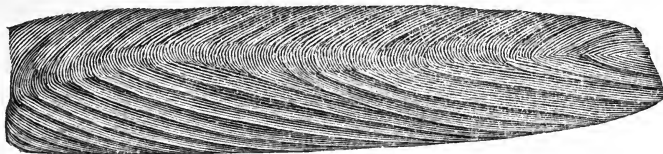


FIG. 28.

Our collection of these mysterious objects has received some valuable additions since the issue of last report. Two very fine specimens came from Wolfe Island, the largest of which measures $8\frac{1}{2}$ in. in length.

Fig. 28 is $4\frac{3}{4}$ in. long. The hole is not quite round and corresponds in size with the outside measurement of the stone. Lengthwise, on the opposite side from that shown above there is a shallow groove. The material is stripped slate. This specimen was presented by Mr. Wm. Michener, one of the oldest and most highly respected surviving settlers in the Township of Humberstone.

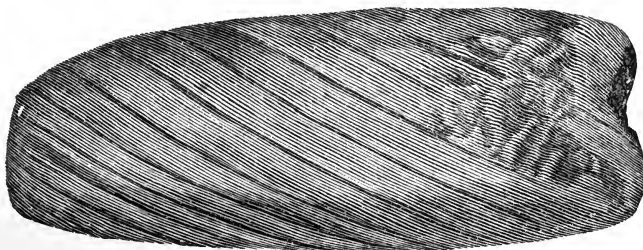
FIG. 29. ($\frac{1}{2}$ Size).

Fig. 29 is of the same material as Fig. 28, and is evidently an unfinished tube. A hole about $\frac{3}{4}$ in. in dia. has been bored to a depth of $1\frac{3}{8}$ in. at the larger end. Found on farm of Mr. W. H. Johnston, Township of West Williams.



FIG. 30. (Nearly Full Size.)

This really fine specimen appears to be unfinished, as it was likely the intention to bore it perpendicularly. It is of striped slate, well made (better than the engraving) and was found near the village of Burford.

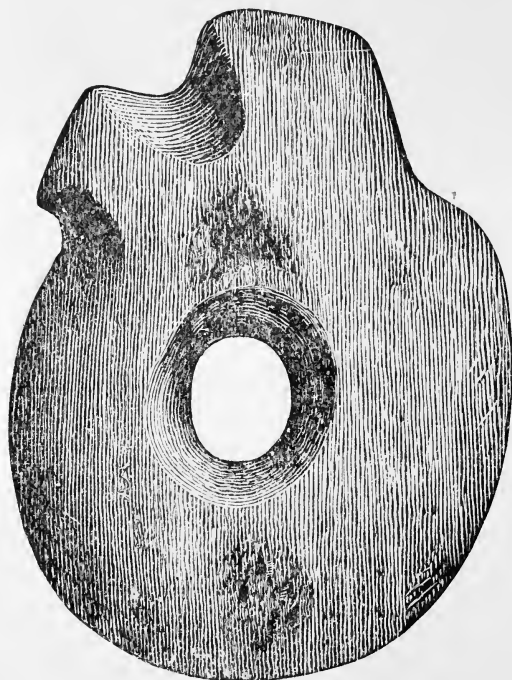


FIG. 31.

The specimen represented here is one of the puzzles. But for its great size, $5\frac{1}{2}$ in. long and 4 in. wide, it might be taken for an intended pipe-head of the

McCallum type found near Milton, figured in our report for 1886-7. The material is a close grained, dingy blue argillite, and is $1\frac{1}{8}$ in. thick. The hole in the middle is counter-sunk on both sides, and some pecking has been done on each side both above and below this hole, either with the intention of enlarging it, or of producing others. Whatever the ultimate intention may have been, the work is evidently incomplete, but is none the less interesting on that account.

This, along with some other fine specimens was presented to the museum by Mr. Angus Buie, of Nottawasaga.

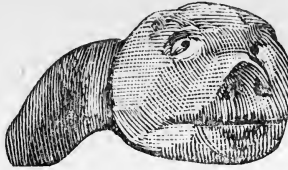


FIG. 32. (Full Size).

The curious nondescript specimen here figured is from Nottawasaga. It is made of white marble, and has a strong resemblance to the head of a bull-dog. Owing to mistake on the part of the engraver, there should be a shoulder and short leg shown behind the neck. Originally the specimen was probably full length as the lower end presents a rough surface as if a piece had been broken off. From Mr. John Hannah, teacher, Duntroon.

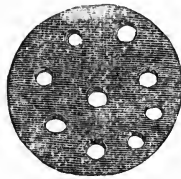


FIG. 33. (Full size.)

Fig. 33 is of brown argillite, less than $\frac{1}{8}$ of an in. in thickness. It seems to have been worn as a pendant; perhaps, as a part of a string of beads. One hole near the margin is larger than the others and shows signs of wear. It is unique so far as our collection is concerned, and not common anywhere. Loughheed farm, Nottawasaga.

MILLS OR MORTARS.

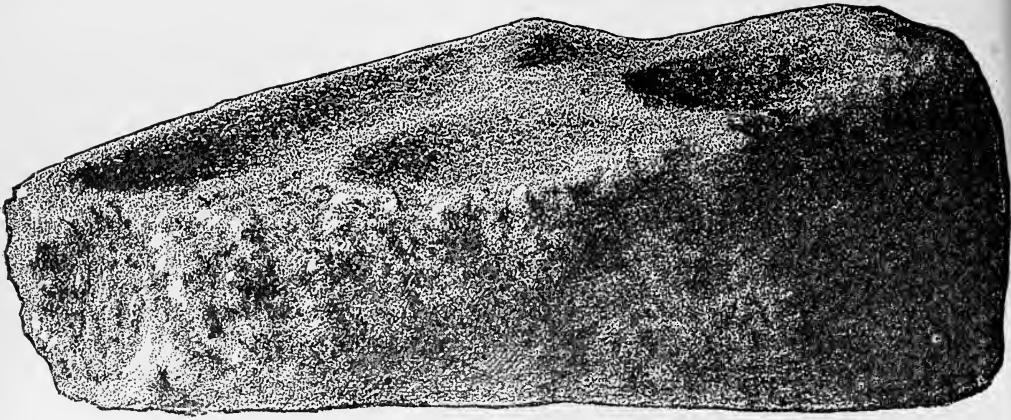


FIG. 34.

Although our collection of mills or mortars is not an extensive one we have been successful in procuring a few very good specimens. The largest and best is from the township of York, within a few miles of Toronto. It is 2 ft. 9 in. long; 1 ft. 7 in. at the widest, and 8 in. thick. The stone is of gneiss, hard, and of a light pink color. At the larger end a hollow has been formed, 16 inches long, 10 in. wide, and $1\frac{1}{2}$ in. deep. Near the middle of the length, but to one side, there is another and almost circular hollow, the greatest diameter of which is $10\frac{1}{2}$ in., and the depth 1 in. At the smaller end of the stone, which rounds off to less than a foot across, there is a third hollow whose longest diameter is 9 in., and the shortest 8 in. The depth of this one is only about $\frac{3}{4}$ in. On the opposite side to the second hollow mentioned, is a fourth hollow, occupying all the remaining available space. It is only half round, being worn out to the margin of the stone, which has here a straight face.

This must have proved an excellent stone for grinding purposes, as the gneissoid laminations have broken off sharply in the course of rubbing, thus presenting a series of angular edges along the sloping sides of the hollows that no doubt facilitated very much the bruising process as applied to seeds, nuts or roots. The weight of this specimen cannot be less than two hundred pounds.

In many parts of the world stones have been found indicative of bruising by means of pounding, and some of those met with in this country may have been so used, but all the specimens we have, appear from the character of the hollowed portion to have been subjected to a circular, grinding motion. This was manifestly so with the large stone in question. It is large enough to permit of at least three persons grinding at the same time. The continued use of such a heavy, and consequently unportable stone, points to a considerable permanency of *habitat*, or else frequent return of people at intervals to the same locality.

The upper, or hand stone, was usually a somewhat flattened and rounded piece of primitive rock weighing from three to six pounds. Long and artificially formed pestles are of comparatively rare occurrence in Ontario, and those that have been discovered are, as a rule, exceedingly plain, differing in this respect from many that are found in more southerly districts.

COPPER.

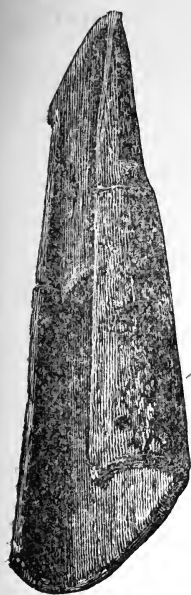
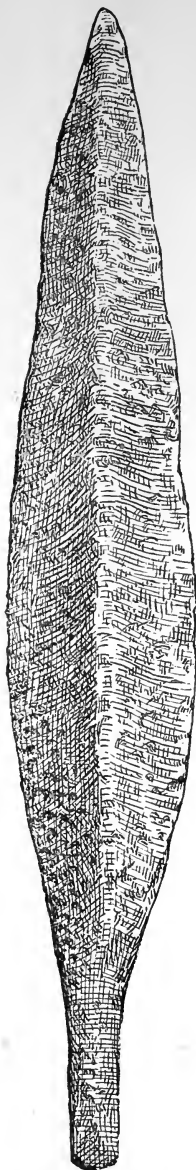
FIG. 35. ($\frac{1}{4}$ Size.)

FIG. 36. (Full size.)

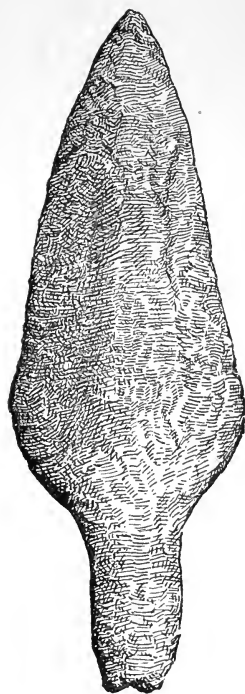


FIG. 37. (Full Size.)

The Fig. 35 represents a remarkably fine specimen of native copper implement found on the north bank of the River Kaministiquia, near Fort William, and was presented to the museum by Capt. J. S. Smith, of Fort William,

along with a spike or spear of the same material, about one foot long, from the same locality. The edges forming the handle socket are just turned over enough to give a good grip, and the cutting end has been worked to as keen an edge as it is possible for copper to take.* This is in many respects the best specimen of native copper implement in our cases.

Although our collection of native copper relics is comparatively small, its extent is already much greater than we anticipated making it when we began to form cabinets. Neither is it to be expected that we shall ever possess objects of this material in such profusion as those of stone or bone. It is not quite easy to account for the scarcity of native copper tools. Distance from source of supply is not enough. Indeed, it seems probable that for most purposes the implement of hornstone or chert was in nearly every way more serviceable than that of the virgin metal. However this may be, copper has not, at any rate, entered so largely into aboriginal economy in this part of the country, as has shell of a species that had to be brought from even a greater distance in an opposite direction, and offering fewer facilities for travel.

Fig. 36 is a good example of the spear or lance head. It was found in the valley of the Ottawa, and has with other objects been placed in our keeping by Dr. T. W. Beeman, of Perth.

Another weapon of this material is illustrated here, Fig. 37. It was found near Lakeside and was presented by Mr. Sparham Sheldrake of that village. Like nearly all such objects it has a rough surface as the result of weathering, and this roughness is shown in short and crooked ribs running longitudinally. Had the metal ever been smelted no such effect would have been produced from weathering, because the metal would then be homogeneous throughout; but in its native condition small portions here and there are harder than the rest, and the effect of hammering into shape is to elongate these. In consequence of their greater hardness these parts withstand the action incident to decay better than the other portion and are thus left standing above the general surface. It is mainly on account of such ridges that so many persons, writers and others, have concluded that the implements or weapons were cast in a mould.

*It may be remarked here that the commonly accepted belief with regard to tempering of copper tools by the Indians is a fallacy. If they have any unusual hardness it is merely the result of cold hammering.

CRANIA.

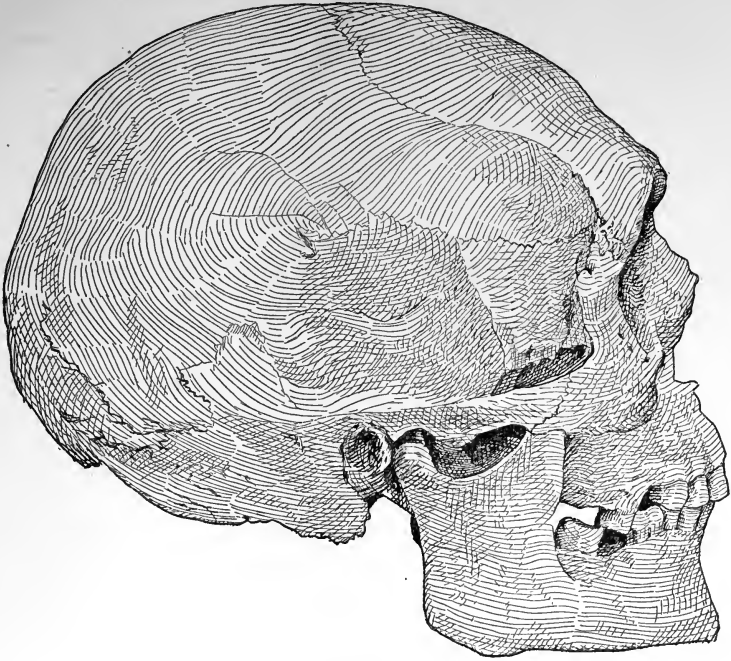


FIG. 38.

This figure represents one of eight skulls taken from within the ancient enclosed village site on the Ridley and Bury farm, Clearville. The measurement of these and other skulls will probably be given in next report; meanwhile the contour of figure 38 is worthy of study. The frontal recession is particularly noticeable.



FIG. 39.

Among the large number of interesting skulls from the Keffer ossuary in Vaughan township, a good many are remarkable for their occipital development, as in Fig. 39.

MODERN INDIAN DRESS, ETC.

It is perhaps almost as desirable that we should preserve specimens of the present day of aborigines' workmanship as well as those of a bygone time. While it is true that the Indian as we know him has lost the art of producing stone weapons and tools, he (and we should say also she) exists in the manufacture of a few simple articles including chip baskets, snow-shoes, and various objects ornamented with bead-work. In the production of these, the women, especially, show considerable taste, and the exercise of much patience.

Beads were valued highly among them even in their primitive condition when stone, shell and bone were their only available materials, and the introduction of the colored glass article proved so attractive that the ancient wampum was discarded at a very early date even in the making of treaty belts. All the belts of this description now held by Fire-keeper, John Buck, for the Six Nation Indians on the Tuscarora Reserve, are composed of European material, as glass, or of other material shaped by European skill, as shell.

We are indebted to the Rev. John McLean, now of Moosejaw, N.W.T., for a number of modern specimens illustrative not only of the skill, but of the manners and customs of the Blood Indians among whom he spent many years of enthusiastic labor, and regarding whom he has written an extremely interesting volume, besides numerous papers that have been read before the Canadian Institute, and some that have appeared in the publications of the Smithsonian Institution.

A list of the specimens presented by Mr. McLean and others will be found in the catalogue accompanying this report.

FRENCH RELICS FROM VILLAGE SITES OF THE HURONS.

THE GEOGRAPHICAL DISTRIBUTION OF THESE RELICS IN THE COUNTIES OF
SIMCOE, YORK, AND ONTARIO.

By A. F. Hunter, B.A.

The French traders of the seventeenth century brought amongst the Huron Indians of Ontario large quantities of articles of European manufacture in exchange for the Indians' furs. The metal portions of these articles are found in abundance at the present day in those parts of the province inhabited by the Hurons at that time.

The most abundant relic of this kind is the iron tomahawk, thousands of which have been found in various parts of the province, but more especially in North Simcoe, and at the west end of Lake Ontario, where the Neuters dwelt. These tomahawks are of various sizes, but almost all of the same well-known shape, each bearing three crosses in relief on one side; their appearance is, however, too well known to require a description.

Copper and brass kettles are also numerous, and are almost invariably found in the ossuaries. In nine cases out of ten these kettles, which were formed of sheet metal, were rendered useless by blows from a tomahawk upon the bases of the vessels. This practice of rendering useless every article deposited with the dead was, however, common to many tribes, the apparent object being to remove any temptation to desecrate the graves.

Besides tomahawks and kettles, there are iron knives, earthen and glass beads, copper bracelets and ear ornaments, and many other articles. The various kinds of French relics are well represented in the Museum of the Canadian Institute, where they can be minutely examined at any time, so that they do not require further notice here. We shall now proceed to the special subject of this paper—the geographical distribution of these relics over the Hurontario isthmus. The analysis by townships of the Huron village sites and ossuaries in the three counties of Simcoe, York and Ontario, which is given in the table accompanying this paper, shows certain evident facts regarding the geographical distribution of French relics. The information supplied by this table has been obtained from catalogues opened by the writer for each of the counties mentioned, in which details of each village site, ossuary, etc., have been collected and recorded. A majority of the sites were personally visited.

The Huron custom of settling in village communities and remaining for a considerable time, makes it an easy task to recognize the remains of one of their villages. These are indicated by abundant accumulations of charred soil and ashes, broken relics, etc.; complete relics are, unfortunately, becoming rare. In preparing these catalogues, therefore, although many sites were visited, it was almost impossible to obtain any relics. In most cases, accordingly, all that the writer could do was to make notes of what relics had been found in past years from as many reliable sources as possible. It occasionally happened that the very fact of the former existence of a village or ossuary had almost passed from the recollection of the present inhabitants of the district.

Up to the present time the writer has made a record of the following Huron sites:—

Villages	Simcoe	218	York	33	Ontario	14
Ossuaries	"	122	"	5	"	6

[These figures do not include a considerable number of Algonquin village sites and burial grounds, which have also been recorded; they apply altogether to the sites once occupied by Hurons.]

They do not indicate the absolute number of village sites and ossuaries in each county, nor are they any index of the relative numbers of sites which may subsequently be found to exist. They merely indicate the numbers recorded so far in each county according to our opportunities for making enquiries. They are, however, sufficiently representative to enable us to arrive at certain important conclusions respecting the geographical distribution of French relics.

Many persons have contributed valuable facts towards the preparation of the catalogues mentioned, for which the writer is under obligations to them; and it would be a long task to give the names of all those to whom credit is due. It will be sufficient for the present to say that the name of every person who became authority for a statement regarding any site, has been recorded in its descriptive account of the catalogues.

Further investigation may modify to some extent the statistics furnished here; but a degree of confidence may be placed upon the general relations indicated by the table:—

TABLE SHOWING THE GEOGRAPHICAL DISTRIBUTION OF FRENCH RELICS IN THE COUNTIES OF SIMCOE, YORK, AND ONTARIO.

TOWNSHIP.	VILLAGE SITES.			OSSUARIES.		
	In Catalogues.	Post-French.	Percentage.	In Catalogues.	Post-French.	Percentage.
Simcoe County:						
Nottawasaga....	32	11	35	41	11	27
Tiny.....	27	14	51	19	8	42
Tay.....	16	12	75	18	9	50
Medonte.....	41	33	80	19	14	74
S. Orillia.....	6	4	66	2	1	50
Oro.....	23	8	35	9	5	55
Vespra.....	19	5	27	2	1	50
Flos.....	12	2	16	4	1	25
Innisfil.....	30	5	17	3		
W. Gwillimbury.	5	1	20	2		
Tecumseth.....	7	1	14	3		
York County:						
E. Gwillimbury.	4					
King.....	2					
Whitchurch....	6			2		
Vaughan.....	3			1		
Markham.....	3			2		
York.....	13	1	8			
Scarboro'.....	2					
Ontario County:						
Scott.....	3			2		
Uxbridge.....	1					
Reach.....	6	1	16	2		
Pickering.....	3			1		
Whitby.....	1			1		
Totals.....	265			133		

The first column of the table gives the townships. In the second is given the number of village sites so far recorded in each township. The third contains the number of village sites at which French relics have been found, and the relative percentage which these bear to the whole number recorded is carried out into the fourth. This is done for the purpose of comparing one township with another. The fifth, sixth, and seventh contain similar statistics relating to the ossuaries.

The townships are arranged in the table, beginning at Georgian Bay and descending southwards. Bearing this fact in mind and glancing down the fourth column, it will be observed how rapidly the percentage of villages where French relics have been found falls off after leaving the first few townships in the remote north beside Georgian Bay. This was the district occupied by the Hurons in the time of the Jesuit missionaries of the seventeenth century. If we draw a line from east to west through Kempenfeldt Bay on Lake Simcoe, it will be seen that of all villages south of this line less than twenty per cent. have yielded French relics. The difference in the geographical distribution of these relics on the two sides of this line is made apparent by contrasting one representative township from each part, say Medonte and Innisfil. In Medonte 41 village sites have been entered in the catalogue, of which no less than 33 (or 80 per cent of them) have yielded French relics; while of 30 village sites in Innisfil, only 5 (or 17 per cent.) have yielded French relics, and merely one or two isolated tomahawks in most of these five cases. There is a wide difference here—viz., between 80 per cent. and 17 per cent., and this difference of geographical distribution can only be accounted for by supposing that the larger part of the villages of Innisfil, as well as of the others south of the line just drawn, were occupied by the Hurons before the arrival of the French traders. In York and Ontario counties there is but one case in each, so far as the writer has ascertained, of European relics having been found at Huron village sites, and in neither of these cases is the evidence very conclusive. Many European relics have been found at Algonquin sites in these two counties, and the two cases in question may be of relics lost by later Mississagas on the ground previously occupied by the Huron lodges.

Independent evidence of a similar character is furnished by the ossuaries. There is no proof of any French relics having been found in the ossuaries south of the line through Kempenfeldt Bay, that is in South Simcoe, York, and Ontario. But in North Simcoe the percentage runs as high as 74.

This classification affords us a means of arriving approximately at the date of Huron occupation of these parts of Central Ontario under consideration. The beginning of French intercourse with the Hurons may be said to have taken place in 1615, when Champlain made his celebrated journey to their country. From that year onwards traffic between the French and Hurons was established. So that speaking in a general way, this date, 1615, is the dividing line between post-French and ante-French villages. Wherever French relics are found, in most cases it may be concluded that the village dates after 1615. The table therefore shows that the sites in N. Simcoe, near Georgian Bay, were mostly post-French, while the more southerly ones—those in S. Simcoe, York and Ontario—were chiefly ante-French.

The former statement might readily have been inferred from our historical data of the first half of the seventeenth century, without the assistance of archæology; but, little of an historical nature has been known with regard to the numerous Huron sites of S. Simcoe, York and Ontario. It would appear from the table that they chiefly belong to a period preceding the sites of N. Simcoe.

There are references in the early French writers to an increase of population in the Huron tract (now North Simcoe) from which we may infer that what might be called a migration took place. Champlain and Le Caron in 1615 reckoned 17 or 18 villages in the Huron peninsula, with 10,000 persons. Brebeuf, in 1635—20 years later—found 20 villages, and about 30,000 souls. [*Relations* (Canadian edition), 1635, p. 33 ; 1636, p. 138.] Here is evidence of a rapid influx from some quarter into the sheltered peninsula of N. Simcoe, between the years 1615 and 1635.

The aborigines of any country are always found at the corner opposite to the point of entry of their invaders. This was the case with the early Celts of Britain, the Lapps of North Europe, the Basques of Southern France, and indeed with every race of conquered people known to history. It might therefore be expected that the Hurons would remove as far as possible from their enemies, the Iroquois ; and it was in this position—against the northerly limit of land adapted to agricultural pursuits—that they were found by the early French.

These inferences from historical considerations have been fully confirmed by the table of sites given, from which it is evident that a removal from the sites of Ontario, York and S. Simcoe took place about the time the French first came.

In conclusion, it may be stated that there is another important feature of the N. Simcoe sites, not indicated in the table, and which though highly important, will be merely alluded to in this paper. The largest Huron village sites in the country are found there, and they are likewise post-French. It would appear from this that as danger from the invading Iroquois grew greater, the population became amassed into larger villages for safety.

CATALOGUE OF SPECIMENS

IN THE

PROVINCIAL ARCHÆOLOGICAL MUSEUM.

The following list does not comprise all that is in the cases of the museum. Many pages would be required, merely to mention the names of donors and localities connected with hundreds of stone axes, "flints," and other comparatively common types of relics.

Neither are the arrangement and classification to be regarded as satisfactory or final. Museums, like libraries of humble origin, require frequent changes and re-arrangements corresponding to the increase and variety of the collections. This is especially so when, as with us, the growth is remarkably rapid, and the space at disposal limited. From almost absolutely nothing four years ago, what follows will give some idea of the success that has attended the efforts of the Canadian Institute to form an archæological collection in some degree worthy of the province.

It is hoped that the example set by so many persons whose names appear in this list as those of donors will be emulated by others, who may have in their possession single specimens or small collections, and that these objects may be presented to us for safe keeping.

S. stands for Mr. J. W. Stewart and M. for Mr. W. Matheson, from whom we purchased small collections, and Y. P. col. stands for York Pioneers' collection.

DAVID BOYLE,
Curator.

CASE A.

PARTLY OR WHOLLY OF EUROPEAN MANUFACTURE, BUT FOUND IN FIELDS AND OSSUARIES.

1. Quantity of small red glass beads. Beverly Tp. Jas. Dwyer.
2. Quantity of small blue and purple glass beads. Beverly Tp. Jas. Dwyer.
3. String of glass beads. Baby Farm,* York Tp. Miss Kirkwood.
4. String of very small red glass beads. York Tp. Y. P. col.
5. Four blue glass beads. Humberstone Tp. Cyrenius Bearss.
6. Two blue and one red glass bead (all square in cross section). Brantford. S.
7. String of glass beads, various colors, with stone pendant. Beverly Tp. Dwyer, col.
8. String of long red glass beads. No locality. Y. P. col.
9. String of glass, shell and stone beads. Y. P. col.
10. String of long blue glass beads. York Tp. Y. P. col.
11. Quantity of long and spherical glass beads, red and blue. Beverly Tp. Dwyer col.
12. Thirteen glass beads from $\frac{1}{4}$ in. to $1\frac{1}{2}$ in. long, variegated red and blue. Lake Medad. Y. P. col.
13. Two oval glass beads. Beverly. Dwyer col.
14. Quantity of blue and red glass beads, various sizes and forms. Nottawasaga. G. Loughheed.
15. Three long, pale blue, glass beads (cross section square). Beverly. Dwyer, col.
16. Three red glass beads. Norwich Tp. S.
17. Quantity of small glass beads, various colors. Beverly Tp. Dwyer col.
18. One cylindrical variegated glass bead, 1 in. long and $\frac{1}{2}$ in. diameter. Nottawasaga. Loughheed col.
19. String of red and blue (mainly round) glass beads, with small Catholic medallion. Baby Farm. J. Kirkwood, Toronto.
20. Brass brooch plate. Mindemoya Island, Manitoulin. John McPherson, Toronto.
21. Silver brooch plate. Brant Co. S.
22. Silver medal (temp. George III.). The body of the medal is thin but has the bust of the youthful king ob. and royal arms rev. in strong relief. Y. P. col.
23. Brass belt medal, $2\frac{1}{2}$ in. diameter. Beverly Tp. Dwyer col.
24. Iron bracelet. Beverly Tp. Dwyer col.
25. Large brass finger-ring. Baby Farm. Y. P. col.
26. Rude copper medal apparently made from fragment of some copper vessel. Baby Farm. Y. P. col.
27. Small ring-brooch and pin. Baby Farm. Y. P. col.

*Pronounced *Bawby*. The Baby family was intimately associated with the early history of Detroit.

28. Small brass seal finger-ring. On the seal is the letter L enclosing a heart. Baby Farm. Miss Kirkwood.

29. Brass seal finger-ring. On seal are engraved I. H. S., with a cross standing on the bar of the H. This ring was presented in a neat box of porcupine quill work. Ossossané, Simcoe Co., Rev. Father Laboureau. Penetanguishene.

30. Silver ornament—circular, $2\frac{3}{8}$ in. diameter. Consists of a narrow, flat rim, $\frac{1}{8}$ in. across, enclosing a six-pointed star, in the centre of which is a circle $\frac{7}{8}$ in. diameter, outside measurement. The whole of the pattern is of the same dimensions as the rim. The star and inner circle are slightly relieved with double-dotted lining on both sides. No locality. Y. P. col.

31. Copper coil nearly 1 in. in diameter. This seems to have been made of round wire which was beaten flat after being coiled. Baby Farm. Jas. Kirkwood.

32. Brass belt-buckle, oval, $3\frac{1}{2}$ in. long by $2\frac{3}{8}$ in. wide. Found near Toronto, Wm. Townsend.

33. Quantity of glass beads in considerable variety. Parkdale. J. R. Wismer, Parkdale.

34. Two large beads, one blue, one white. Near Toronto. Y. P. col.

35. Rudely formed ear of large copper kettle. It is made of several thicknesses of sheet copper folded. Beverly. Dwyer col.

36. Sheet copper coiled to form a rough tube and bent like L. Baby Farm. J. Kirkwood.

37. Sheet copper, fragment of kettle bottom. Shows hammer marks. Beverly. Dwyer col.

38. Four fragments of sheet copper from kettles. Baby Farm. Miss Kirkwood.

39. Twelve pieces sheet copper. Five of them triangular and perforated near the middle, Five are coiled conically. Beverly. Dwyer col.

40. Several fragments of copper kettles. Beverly. Jas. Rae.

41. Two fragments copper kettles. F. A. Benson, Port Hope.

42. Brass vessel 6 in. diameter and $2\frac{3}{4}$ in. deep, with ears. No record.

43. Lead ingot and conical bullet. Baby Farm. J. Kirkwood.

44. Lead smoking pipe. Scotland Village, Brant Co. S.

45. Piece of sheet copper 7 in. long and $2\frac{1}{4}$ at widest. Said to have been over two feet long when found along with other relics. Jas. Dickson, Fenelon Falls.

46. Sheet copper needle (?) $2\frac{7}{8}$ in. long, barely $\frac{1}{4}$ in. wide at head where it is broken apparently about midway through a long eye, $\frac{1}{4}$ in. of which remains. Nottawasaga. Lougheed col.

47. Iron pipe-tomahawk. Pipe head broken off. Blade has floral design engraved on each side. Some lines are also cut on the sides of the eye. Vardy Lake, Addington Co. Dr. T. W. Beeman, Perth.

48. Part of gun-lock. Baby Farm. Miss Kirkwood.

49. Fire or tinder steel. Y. P., col.

50. Gun flint. Baby Farm. Miss Kirkwood.

51. Six gun flints. Baby Farm. J. Kirkwood.

52. Part of white clay pipe stem on which are stamped two lozenge-shaped figures, quartered, each quarter containing a *fleur de lis*. Baby Farm. J. Kirkwood.

53. Iron pipe tomakawk, complete, with perforated handle. No record. Y. P. col.

54. Iron nodule containing pyrites. Found with some Indian relics in Huron Tp. William Welsh, Amberly.

CASE B.

BROKEN AND UNFINISHED ARTICLES SHOWING METHODS OF WORKING.

1-11. Pieces of red freestone and grey limestone smoothed and marked off as if preparatory to making beads. G. Loughheed, Nottawasaga.

12. Stone marked to form pipe. Head portion broken. G. Loughheed, Nottawasaga.

13. Part of what was probably a pipe stem. Now in two pieces—broken lengthwise and showing the bore. A. Loughheed, Nottawasaga.

14. Piece of limestone in process of being shaped as a pipe-head (probably). This illustrates one of the methods of cutting through stone. A row of holes has been bored in the direction of the proposed cut. When broken off, grinding or rubbing has been begun to efface the marks left by the holes.

15. Small, roughly oblong piece of limestone about $1\frac{1}{4}$ in. long, $\frac{1}{2}$ deep, and nearly $\frac{1}{2}$ in. thick. A hole (oval) about $\frac{3}{4}$ in. long has been worked on one of the narrow sides, and this penetrates to the opposite side where it terminates as a small round hole. The latter side shows that the piece has been detached from another larger or smaller portion by cutting all round to weaken before breaking. The carving of a human face has been begun on one end. A. Loughheed, Nottawasaga.

16. Portion of large implement quite unlike anything else in the collection. Marks of work are perfectly evident, but the specimen is not easily described. Pike's Farm, Wolfe Island.

17. Rudely formed, or unfinished implement of limestone, semicircular, with projection like a handle on the straight side. Has a general resemblance to an old-fashioned hand meat-chopper. Length of blade $5\frac{1}{2}$ in. and from edge to end of handle $4\frac{1}{4}$ in. Middlesex Co. M.

18. A flat ovate, striated slate pebble, 4 in. long, greatest width $2\frac{3}{8}$, and greatest thickness $\frac{5}{8}$ inch. Is deeply cut lengthwise into five sections. Incisions on both sides. Apparently the intention was to break the several pieces off for beads or other ornaments. McGillwray Tp., Middlesex. M.

19. Small piece of limestone pebble, showing a cut-off mark corresponding in kind to that on No. 15 in this case, but much more distinct.

20. Two specimens marked A and B. These are unfinished beads of red freestone like Nos. 1 to 7. The smaller piece, 20 A, is only half an inch long, and has been bored from one end. The larger piece $1\frac{3}{8}$ in. long is unbored. G. Loughheed, Nottawasaga.

21. A spoiled or unfinished tablet. (See description, cases N and O.) The four sides have been hollowed to depth of $\frac{3}{8}$ of an in., and the corners are rounded. One hole has been partly bored. S.

22. Small cylindrical piece of limestone, 1 in. long, and about $\frac{5}{8}$ in. diameter. One side is split off, evidently as the result of boring which has been begun at one end. Albert Loughed, Nottawasaga.

23. A waterworn, nearly globular pebble; longest diameter $2\frac{1}{2}$ in. Transverse to this a beginning has been made in cutting a groove, as if for attachment to a handle by means of a thong. J. Wood, Lawrenceburg, Indiana.

24. A waterworn stone. Appears to have been at first globular, and $2\frac{1}{4}$ in. in diameter. Two opposite sides have been rubbed down presenting nearly parallel faces $1\frac{1}{2}$ in. across. M.

25. A spherical waterworn pebble, $2\frac{1}{4}$ in. in diameter. A hole has been bored into it about $\frac{1}{4}$ in. deep. Brookfield, Missouri.

26. A waterworn granitic pebble, $2\frac{1}{4}$ in. in diameter. Shows traces of hand-rubbing in two or three places. Mercer Co., Kentucky. Prof. Moritz Fischer, Curator Ky. Geol. Sur. Mus., Frankfort.

27. Granite, $4\frac{1}{4}$ long, $3\frac{1}{4}$ wide, and $1\frac{3}{4}$ thick in the middle. Although still rough, an immense amount of work must have been done on this stone. The two ends have been pecked down and rounded to half the thickness of the middle, where a ridge has been left, running from side to side as if the intention had been to bore through in that direction. Point Edward, Dr. Rear, Toronto.

28. Waterworn stone, 5 in. long, $2\frac{3}{8}$ wide and nearly 2 in. thick; the natural shape has suggested an ax or other tool, and one side has been pecked to make it correspond with the opposite side. The material is a close-grained, dark grey limestone. Dr. Craig, Lawrenceburg, Indiana.

29. Fragment of steatite vessel. Three slit-like holes in this piece are probably of recent origin. Alamance Co., N. Carolina, Prof. Jos. Moore, Earham College, Richmond, Indiana.

30. Slate tablet 5 in. long, $3\frac{1}{2}$ wide. Apparently unfinished—holes not bored. Lot 25, con. 22, McGillivray Tp. M.

31. Slate tablet, 4 in. by $2\frac{1}{4}$ in. No holes. Lot 4, con. 4. Biddulph Tp. M.

32. Unfinished implement or weapon of veined blue slate, like 43, 44, 46 and 47, Case M. Dr. Craig, Lawrenceburg, Indiana.

33. Unfinished slate tablet, $4 \times 2\frac{1}{4}$, with corners rounded. Unbored. S.

34. Slate, three inches long, two and a half wide at one end, one and three-fourths at the other; one inch and a quarter thick at the wider end and having roughly convex sides. At the larger end two holes have been drilled, one 9-16 of an inch in diameter, is $1\frac{5}{8}$ inch deep; the other $\frac{3}{8}$ inch diameter, is only $\frac{7}{8}$ inch deep. The inner or adjoining sides of the holes have met giving the drilling a figure 8 outline, the longer diameter of the double boring being only 1 1-16 inch. At the smaller end the hole is 10-16 inch diameter, and $1\frac{3}{8}$ inch deep. Although the length of the borings is equal to the total length of the specimen the holes do not meet, the deeper of the two at the wider end having been drilled somewhat aslant. McGillivray, Tp. Middlesex. M.

35. Piece of argillite, $9\frac{3}{4}$ in. long, about an inch in diameter, with roughly clipped or pecked, rounded sides, along one of which, as well as at one end, an angular groove has been cut. M.

36. Argillite, 4 in. long, 1 inch in diameter at thick end, and tapering to a point. Is half of an implement like 30 and 31 in case M. M.

37. Tablet (?) $4\frac{1}{2} \times 2\frac{1}{4}$ in. greatest measurements. Thickness in middle, $\frac{1}{2}$ inch. Edges convex, one side slightly convex, the other very much so. Specimen carries what seem to be crystals of calcite. Miss Maria Tipton, Paris Kentucky.

38. Tablet of brown argillite, $3\frac{1}{2} \times 1\frac{1}{2}$. 5-16 inch thick. Edges convex. One side nearly flat, other convex. No holes. M.

39. Tablet, much like 38 in material and form, but $4\frac{1}{2} \times 1\frac{5}{8}$. S.

40. Small hatchet-shaped piece of limestone, showing signs of having been used to sharpen, polish or rub other material. One corner is coated with iron rust owing to the proximity of a small quantity of hematite where it was found, near the east end of Tidd's island opposite Gananoque.

41. Pipe-stem of limestone $3\frac{1}{4}$ in. long. The workmanship is suggestive of European influence.

42. Much like 41, but only 2 in. long. Both from A. Lougheed, Nottawasaga.

43. Unfinished pipe-stem of limestone, $2\frac{3}{4} \times 1$ inch and roughly square. Has evidently been separated from the head after the bowl was bored. Instructive as showing mode of reducing to required size. Deep cuts have been made with flint flakes at intervals of from 3-16 to $\frac{1}{4}$ of an inch, and the intervening portions have been broken off. A. Lougheed, Nottawasaga.

44. Seems also to have been part of a pipe. It is $3\frac{1}{4}$ inches long, $1\frac{1}{2}$ thick in one direction, and only a little more than an inch in the other. The two wider sides are flattened and the other two are rounded. Near to one of the round sides a $\frac{1}{8}$ inch hole has been bored nearly $1\frac{3}{4}$ in. deep, in the direction of the longer axis. The same end also shows that the piece of stone has been cut from another by notching deeply (3-16 of an inch) all round, and then breaking forcibly.

45. A roughly blocked out pipe-head of marble, intended for a hole to receive a wooden stem. Vaughan Tp. Dr. Orr, Maple.

46. Two fragments of pipe-stems, limestone, square. Geo. Lougheed, Nottawasaga.

47. Broken pipe-stem, limestone, rounded. Albert Lougheed, Nottawasaga.

48. Roughly blocked pipe(?) Perhaps only a water worn stone. S.

49. Piece of limestone, cylindrical, 1 in. in diameter, a hole $\frac{1}{8}$ of an inch in diameter has been bored lengthwise close to the outside. The portion between the hole and outside has then been removed, the work now looking like a groove made from the outside. David Melville, Creemore.

50. Rough block for pipe. Baby Farm, Lambton Mills. J. Kirkwood.

51. Three pipe-stems. (See remark, 41.) G. Lougheed, Nottawasaga.

52. Spoiled pipe-head, limestone. The bowl has been badly bored and the stem is broken off. This specimen, three inches long and two wide at the broken mouth, shows that both sides of the bowl have been lined up the middle exteriorly to aid the eye in directing the drill. G. Lougheed, Nottawasaga.

A to S.—Contents of a grave opened on Noncon island by Mr. A. Stevens. The find consists of two bone awls or needles, three tips of deer-horn, a bone spear-head, a wolf's jaw bone, a stone ax, a perforated slate tablet, a bit of pottery, seven flints, and two small pieces of graphite. A. F. Chamberlain, Toronto.

CASE C.

ROUGH FLINTS.

- 1 to 9. Palæolithic flints from Sussex Mills, England. W. Ransom, Hitchin.
10. Large flint core $10\frac{1}{4}$ inches long, from which flakes have been chipped. Le Grande Persigny, France. W. Ransom, Hitchin, England.
11. Flint knife. Persigny, France. W. Ransom, Hitchin, England.
- 12 to 18. Palæolithic implements of flint varying in color from light gray to almost black, and in size from three inches to six inches long.
19. Palæolithic implements. Bedford, Eng. W. Ransom, Hitchin, England.
20. Small barbed arrow head $1\frac{5}{8}$ inches long without neck. Derry, Ireland. W. Ransom, Hitchin
21. Small and beautiful barbed and necked arrow head, $\frac{7}{8}$ in. long, and $\frac{7}{8}$ in. across base of barbs. Antrim, Ireland. W. Ransom, Hitchin, England.
22. Leaf-shaped flint, $1\frac{1}{4}$ in. long, and 1 in. wide. Antrim, Ireland. W. Ransom, Hitchin, England.
23. Arrow head $1\frac{3}{4}$ in. long barbed and necked. Antrim, Ireland. W. Ransom, Hitchin, England.
24. Fragment of neolithic implement, apparently about half of a bored axe or club-head, originally upwards of six inches long, but now broken across the hole. Sussex mills, England. W. Ransom, Hitchin, England.
25. Small stone axe in deer-horn handle, from lake-dwelling, Switzerland. W. Ransom, Hitchin, England.

The foregoing were procured through Mr. Jas. H. Pearce of the Institute.

Case C. includes also sixty-nine leaf shaped "flints" from 2 inches to 4 inches long, found in a heap a few inches below the surface, on the farm of Arthur Seabrook, Komoka.

Eight large and rudely chipped implements from Wolfe Island.

And coarse specimens from N. Carolina, Alabama, Georgia, Kentucky, Indiana, Missouri, Ohio and Wyoming.

All in this case are of such a character as would be called "palæolithic" if our data permitted. The total number is nearly 200.

CASE D.

TYPICAL FLINTS.

Contains 240 specimens of "flints" varying from half an inch to six inches in length, and were probably all used as spears, lances or arrows. The arrangement in this case is for the purpose of illustrating, sizes, shapes, material and modes of fastening to shafts.

Mainly of chert, some are of flint, others of jasper, chalcedony, obsidian and agate. One is of pure quartz.

The territory represented covers many of the United States as well as Ontario.

CASE E.

MISCELLANEOUS FLINTS.

Contains about 200 small flaked "flints" mainly from the United States. The chief donors were Drs. Craig and Collins, Lawrenceburg, Indiana, the Natural History Society of Brookville, Indiana, the Geological Survey of Kentucky; Prof. Jas. Moore, Earlham College, Richmond, Ind.; E. T. Hummell, Decatur, Alabama; the Society of Natural History, Cincinnati; and Prof. J. L. Deming, of the Technological Institute, Boston, Mass.

CASE F.

FLAKED TOOLS AND WEAPONS.

1. Shaly chert, almost black, $8\frac{3}{8}$ in. long, $4\frac{1}{2}$ wide, and averaging about $\frac{1}{4}$ inch thick; no notch for attachment to handle; general outline, an irregular oval. An intrusive vein one line in thickness crosses it at a slight angle $2\frac{1}{2}$ in. from the point. May have been intended for a spade or a hoe, but shows no signs of use. From a grave mound in Tremont Park, Tidd's Island, R. St. Lawrence (opposite Gananoque). C. A. See, Tremont Park.

1 $\frac{1}{2}$. Quartzite, $5\frac{1}{2}$ in. long by $2\frac{3}{4}$ wide, about $\frac{3}{4}$ inch in thickest part, has been notched, but is broken at shoulder; rudely chipped, and of irregular outline. Tremont Park, Tidd's Island. C. A. See.

2. Chert, dark brown, $9\frac{1}{4}$ in. long by $3\frac{3}{4}$ inches wide, and about $\frac{1}{4}$ in. thick in middle; broken in three pieces; no notch; signs of wear slightly observable. Tremont Park. C. A. See.

3. Chert, dingy grey, $8\frac{1}{2}$ in. long by $3\frac{1}{8}$ wide and $\frac{3}{8}$ in. thick in the middle, sides unsymmetrical; notched; neck $\frac{3}{4}$ inch long. Tremont Park. C. A. See.

4. Flint; not homogeneous; 8 in. long by $3\frac{1}{4}$ wide, greatest thickness 5-16 in.; thicker towards each end than in the middle; symmetrical; no notch, leaf-shaped, pointed and slightly worn. Tremont Park. C. A. See.

5. Veined quartzite, $6\frac{1}{2}$ in. long by 3 inches wide, leaf-shaped, with a comparatively small neck, thin in proportion to length. Tremont Park. C. A. See.

6. Chert, $7\frac{1}{2}$ in. long by $2\frac{3}{8}$ in. wide at base; slightly barbed; neck broken; thin and almost symmetrical; lanceolate. Tremont Park. C. A. See.

7. Quartzite, translucent, 6 in. long by $2\frac{1}{8}$ in. wide; notched neck; sides not symmetrical. Tremont Park. C. A. See.

8. Chert, grey and brown, not homogeneous, $9\frac{3}{8}$ in. long by $3\frac{5}{8}$ in. wide, leaf-shaped; very thin; symmetrical, but slightly curved in direction of flat-side. Tremont Park. C. A. See.

9 to 14. Fragments of similar weapons or tools from same place.

14 $\frac{1}{2}$. Quartzite, translucent, 4 in. long by $2\frac{1}{8}$ in. wide; symmetrical and somewhat thick in proportion to length; leaf-shaped. Tremont Park. C. A. See.

15. Chert, $11\frac{1}{2}$ in. long by $3\frac{3}{8}$ in. wide; leaf-shaped; fractured slightly at base; about $\frac{3}{4}$ in. at the thickest part; symmetrical; this is the largest flaked implement in the museum. Pickering Tp. Jas. Dickson, Fenelon Falls.

16. Cherty limestone, $7\frac{1}{4}$ in. long by 3 in. wide; very thin; notched neck. Wolfe Island.

17. Fine chert, $6\frac{1}{4}$ in. long by $3\frac{3}{8}$ in. wide; short and deeply notched neck, forming semi-barbs; beautiful heart-shaped outline. Wolfe Island.

18. Coarse chert, $4\frac{7}{8}$ in. long by $3\frac{7}{8}$ in. wide; neck $\frac{3}{4}$ in. long and 1 inch wide; somewhat rudely chipped; very broad in proportion to length. Wolfe Island.

19. Chert, 5 in. long by $2\frac{3}{4}$ wide; slightly barbed; neck $\frac{3}{4}$ in. long by 1 in. wide. In this specimen there is a well-defined oval nucleus exactly in the middle and showing both sides; on one side this measures about 2 in. by $1\frac{1}{2}$ in., and on the other $1\frac{3}{4}$ in. by $1\frac{3}{8}$. Wolfe Island.

20. Fine veined chert, $5\frac{1}{2}$ in. long by $2\frac{1}{2}$ in. at base; sides little curved; straight neck $\frac{3}{4}$ in. long. Edges thinned from left side; very thin in proportion to length. Biddulph Tp. M.

21. Chert, $5\frac{1}{2}$ in. long by $1\frac{7}{8}$ wide; point broken; straight neck $1\frac{1}{4}$ inch long, very thick. Sarnia Indian Reserve. M.

22. Impure chert. $5\frac{1}{2}$ in. long by $2\frac{1}{4}$ in. wide; sides almost straight; notched neck. East Williams Tp. M.

23. White chert, $8\frac{1}{4}$ in. long by 3 in. wide; unsymmetrical; leaf-shaped. Plympton Tp. S.

24. Chert, 8 in. long by $1\frac{5}{8}$ in. wide; symmetrical and gracefully formed; neck faintly marked off from body, $1\frac{5}{8}$ inch long. McGillivray Tp. M.

25. Chert, $5\frac{1}{2}$ in. long by $2\frac{1}{2}$ wide; notched neck $\frac{3}{4}$ in. long and same width; body comparatively thick. Wolfe Island.

26. Chert, $5\frac{3}{8}$ in. long by $1\frac{7}{8}$ in. wide, squarely-shouldered neck, $\frac{3}{4}$ in. long and pointed. McGillivray Tp. M.

27. Chert, $4\frac{3}{4}$ in. long by $1\frac{7}{8}$ in. wide; slightly notched neck; edges symmetrical, one side flat. Middlesex, Co. M.

28 to 39. Chert, group of weapons from $4\frac{1}{2}$ in. to $8\frac{1}{2}$ in. long, and from $2\frac{1}{2}$ in. to $3\frac{1}{4}$ in. wide at base. With the exception of No. 28, they are all of the same pattern, being square-shouldered and having heavy, strong necks about an inch long. No. 28 is almost leaf-shaped, the neck being abortive. These "flints" were found together at the edge of a swamp on gore lot 27; N. B., West Williams Tp. M.

40. Dark brown flint, $5\frac{1}{4}$ in. long by $1\frac{7}{8}$ in. wide; notched neck $\frac{1}{2}$ in. long, and forked at base. Wolfe Island.

41. Brown cherty limestone, $5\frac{1}{8}$ in. long by $1\frac{1}{8}$ in. wide, neck broken. Plympton Tp. S.

42. Chert, a beautiful leaf-shaped specimen, $8\frac{1}{2}$ in. long by $2\frac{1}{2}$ in. wide, and scarcely a quarter inch thick; edges flaked chiefly from right side. Wolfe Island.

43. Chert, leaf-shaped, $7\frac{1}{2}$ in. long by $2\frac{1}{2}$ in. wide; tip broken, symmetrical and elegant. McGillivray Tp. M.

44. Very coarse chert, leaf-shaped, $6\frac{3}{4}$ in. long by 2 in. wide; rudely chipped. Biddulph Tp. M.

45. Chert, $5\frac{1}{8}$ in. long by $2\frac{5}{8}$ in. wide; notched neck, $\frac{1}{2}$ in. long by $1\frac{1}{4}$ in. wide; roughly flaked and unsymmetrical. Wolfe Island.

46. Chert, $5\frac{1}{4}$ in. long by $1\frac{5}{8}$ in. wide; square shouldered, neck $\frac{3}{4}$ in. long. This specimen is very thick in the middle in proportion to length.

47. Coarse chert, 5 in. long by $1\frac{3}{8}$ in. wide; neck has a slightly square shoulder, and is $1\frac{1}{8}$ in. long, being rounded at base. Madison Co., Ky. Dr. Collins, Lawrenceburg, Ind.

48. Fine chert, $4\frac{3}{4}$ in. long by $1\frac{1}{2}$ in. wide at base, leaf-shaped; edges flaked from left side and slightly serrated; body almost flat otherwise and about $\frac{1}{4}$ inch thick. Fayette Co., Kentucky. Dr. Collins, Lawrenceburg, Ind.

49. Light bluish flint, $6\frac{3}{4}$ in. long by $2\frac{1}{2}$ in. wide at base; leaf-shaped; edges rudely flaked. Forest. S.

50. Milky quartzite, $5\frac{3}{4}$ in. long by $1\frac{1}{2}$ in. wide; neck notched and equal in breadth to base of body; tip broken; body $\frac{3}{8}$ in. thick in middle, cross section would show a good ellipse; not quite symmetrical in the edges. St. Mary's. S.

51. Coarse chert, 5 in. long by $2\frac{3}{8}$ in. wide; leaf-shaped; edges symmetrical and much curved, the general outline being more egg-shaped than is usual. No locality. S.

52. Very dark (almost black) chert, with light colored veins; $4\frac{5}{8}$ in. long by $1\frac{3}{4}$ in. wide; middle of body $\frac{3}{8}$ inch thick and smoothly flaked to edges; deeply notched neck, which is also hollowed at base; very symmetrical. North Branch, Mich. S.

53. Chert, $3\frac{3}{4}$ in. long by 2 in. wide; straight neck 1 in. long; barb $\frac{1}{2}$ in. long, one barb off. Bourbon Co., Ky. Dr. Collins, Lawrenceburg, Ind.

54 to 58. Five notched necked "flints," varying from 4 in. to $4\frac{1}{2}$ in. long, and from 2 in. to $2\frac{5}{8}$ in. wide. McGillivray Tp. M.

59. Chert, 6 in. long by $2\frac{5}{8}$ in. wide; point broken; straight neck; rudely flaked. West Williams. M.

CASE G.

BONE AND HORN.

1. Small turtle shell perforated with sixteen holes. Has probably been a rattle. Beverly. Dwyer col.

2. Bone, somewhat cylindrical, $1\frac{1}{4}$ in. diameter, rudely worked at each end. York Tp. B. Jackes, Toronto.

3. Splinter of deer-horn, 9 in. long and about 1 in. wide. Edges appear to have been hacked with a sharp tool. One end roughly sharpened; other end broken. Nottawasaga. Loughheed col.

4. Bone of beaver's tail. Found with many relics in London, Ont., by Jas. McDowell, 1849. M.

5. Part of turtle shell, semicircular, $2\frac{3}{4}$ in. diameter, perforated with three holes.

6. Gouge or chisel of deer-horn, $7\frac{3}{4}$ in. long and $2\frac{1}{8}$ in. across widest part; $1\frac{1}{2}$ in. behind lip. Beverly. Dwyer col.

7. Horn chisel, 7 in. long, and $1\frac{1}{4}$ wide. Considerably injured; head broken. York Tp. Y. P. col.

8. Bone knife, 8 in. long. Y. P. col.

9. Circular portion of human skull, 4 in. diameter, three holes bored 1 in. apart in middle, as if at the angles of an equilateral triangle. Three smaller holes have also been bored close to the margin triangularly. York Tp. Geo. Miller.

10. Circular portion of human skull, 4 in. diameter, unperforated. No work done on it beyond rubbing down the edges smoothly, and scouring the outside. Aurora, York Tp. S.

11. Portion of human skull, somewhat oval. Longer diameter, $4\frac{1}{4}$ in., shorter diameter, $3\frac{5}{8}$ in. Perforated with seven holes, six of them in pairs from $\frac{5}{8}$ in. to 1 in. apart, but not regularly arranged. The odd hole is near the margin of the longer axis. Beverly. Dwyer col.

12-16. Horn tips sharpened to chisel points. Kitchen midden. Vancouver, British Columbia. James Johnson, Vancouver.

17. Rude bone awl. Kitchen midden. Vancouver. James Johnson, Vancouver.

18. Bone awl—ditto.

19. Bone awl—ditto. Point broken.

20. Deer-horn fork; one tip broken. Has had a hole at base of prong. Lower part now broken away; 4 in. long. Beverly. Dwyer col.

21. Deer-horn fork, $4\frac{1}{2}$ in. long, and tip of longer prong broken. A $7/16$ inch hole bored at base of fork $2\frac{1}{2}$ in. from tip of smaller prong. A base of 2 inches extends beyond the hole, where the cut-off marks are very plain. Beverly. Dwyer col.

22. Horn-tip, split and blackened by fire; 3 in. long. Point has been sharpened. Noncon Island, Lake Scugog. Jas. Stevens, per A. F. Chamberlin.

23. Bone spear or harpoon, $5\frac{1}{2}$ in. long, but a portion of the shaft has been broken off. Greatest width at end of shaft $11/16$ in., 2 in. from point shaft narrows to $\frac{3}{8}$ in., and the head consists of a flat portion decreasing from $9/16$ in. to a point, and having on each side five barbs. The bone is grooved longitudinally on each side. Near Simcoe Town. S.

24. Horn spear or harpoon (single-barbed), 8 in. long. Breadth of shaft from hole 1 in. This part is flat and 2 in. long with square shoulders where it meets the middle portion which is a flattened oval $3\frac{5}{8}$ in. long from the shoulders to the inner angle of the barb. The barb itself is $\frac{3}{8}$ in. long, and from its tip to the point of the spear is $2\frac{3}{8}$ in. Beverly. Jas. Rae.

25. Bone spear or harpoon (three-barbed on one side) $6\frac{1}{2}$ in. long, point broken a little; barbs deeply cut. From broken point to tip of first barb is 2 inches; from tip of first to tip of second barb $1\frac{5}{16}$ in.; from tip of second to tip of third barb $1\frac{3}{8}$ in. The shaft from inner angle of third barb is 2 in., $1\frac{1}{4}$ in. from shaft end and below the third barb; close to edge is an oval hole about $\frac{1}{4}$ in. the longer way. The shaft end has been ground down to a chisel point, and has no doubt had a secondary use. Victoria Co. Dickson col.

26. Harpoon, three-barbed, $5\frac{3}{8}$ in. long; hole $1\frac{1}{4}$ in. from shaft end, and eccentric towards barbed edge. Barbs slightly ogee on edge; axils well rounded. York Tp. Jackes col.

27. Point of spear-head $2\frac{3}{4}$ in. long, three barbed on each side. Shaft portion remaining $1\frac{1}{4}$ in. long, and $\frac{3}{8}$ in. wide. Five barbs square shouldered—one a little under cut. Breadth across widest portion of barbed end $\frac{1}{2}$ inch. Lake Medad.

28. Fish-hook. Length from upper end to curve $3\frac{7}{16}$ inch; barbed end from curve to point $2\frac{1}{16}$ in.; thickest portion of shaft at curve $\frac{1}{4}$ in., tapering to $\frac{1}{8}$ in. near upper end; shaft terminates in small knob about $\frac{1}{4}$ in. diameter; carved part averages fully $\frac{1}{4}$ in., with inside fairly rounded, and outside more angular and roughly finished; barb from tip to tip $1\frac{7}{16}$ in., with axil $\frac{3}{16}$ deep; width between shaft and barb axil $\frac{1}{2}$ in., between tip of barb and inner curve $\frac{1}{4}$ in., and between tip of hook and shaft $\frac{3}{8}$ in. One side of curve appears as if gnawed, leaving four bars with a slight bend running across it from the barbed side towards the shaft side. Lindsay. S.

29-30. Two halves of beaver's upper jaws. Grave, Onentisati, Simcoe Co.

31. Lower jaw of beaver. Grave, Onentisati, Simcoe Co.

32-34. Bear's teeth. Grave near Orillia. Jas. Fraser, Craighurst.

35-41. Bears' teeth. Village site, Nottawasaga. Loughheed col.

42. Bear's tooth. Ste. Marie, Simcoe Co.

43. Walrus tooth. Balsam Lake, Ont. T. Bell.

44-52. Small compressed pear-shaped teeth (elk's) about 1 in. long and $\frac{1}{2}$ in. wide. These are ground smooth at small end and are then perforated. No locality. Y. P. col.

53. Bone $2\frac{3}{4}$ in. long, carved to represent a fish. The outline is somewhat whale like; $\frac{5}{16}$ in. from nose and $\frac{1}{8}$ in. from throat, are what may have been intended for gills (not if a whale). A small hole has been bored from side to side, $\frac{3}{16}$ in. in advance of this and a little higher are two small depressions. These are too far forward for eyes, and too high as well as too far back to be nostrils. They were probably meant for eyes. Mouth deeply cut and extending back almost to the gills. No imitation of fins or tail. At tail end $\frac{7}{16}$ in. on the upper side relieved by nine lines cut at right angles to long axis, and eight lines crossing these diagonally from left to right. Exeter. S.

54. Human form—bone; $\frac{31}{16}$ in. long; width at shoulders $\frac{9}{16}$ in. Right arm placed on left shoulder. Left arm extending to right side of waist. No feet. The figure is proportionate. While head and neck measure $\frac{7}{16}$ in., the body is fully $1\frac{9}{16}$ in., and the legs only $1\frac{1}{16}$ inch long. Beverly Tp. Rae col.

55. Bone mask, human; $2\frac{1}{8}$ in. long, and $\frac{5}{8}$ in. wide. Eye holes are bored through. Nottawasaga. Loughheed col.

56. Horn, spear or harpoon, one barb. Shaft end $3\frac{1}{8}$ in. long, and $1\frac{1}{8}$ wide. Hole near middle two inches from end. Flat portion at shaft end shouldered down to $\frac{5}{8}$ in., then rounded on edges to tip. Barb, tip to tip, $2\frac{1}{16}$. Axil $\frac{1}{4}$ in. deep, and nearly same width. Shaft end behind hole, whittled, and hole has been cut through, not bored; or else has been enlarged by cutting after boring. York Tp. Long col.

57. Deer-horn fork, $3\frac{1}{2}$ in long, cut off squarely at butt or lower end. One prong is $2\frac{1}{8}$ in. and the other $1\frac{1}{4}$ in. long. Greater diameter of butt at

cut $\frac{3}{4}$ inch. Across upper side of larger prong, and lower side of the other, and in a line with the axil two grooves are worn as if the object had been employed as a tool to smooth thongs or sinews by rubbing them lengthwise. About midway below the prongs other fainter grooves are perceptible. Humberstone Tp., Welland Co. Cyrenius Bearss.

58. Bone chisel $11\frac{7}{8}$ in. long, and averaging $1\frac{1}{8}$ in. across blade. This tool is made of an undetermined quadruped's leg bone, a cross section of which is roughly quadrangular. The upper or handle end is almost square and about $1\frac{1}{2}$ in. on each side. For $2\frac{1}{4}$ in. the bone has been left intact, beyond rubbing the joint down to a level surface. At this distance the wall on one side is cut sharply down until the cavity of the bone is reached, and the whole side is made to taper beautifully to the lip, giving the tool when viewed edgewise the appearance of an elongated wedge. Nottawasaga. Thomas White.

59. Bone chisel or gouge, $11\frac{1}{4}$ in. long. This appears to be made from a leg-bone, but is quite unlike No. 58. A cross section of it would be oval, and the diameter is less in the middle than at the ends, being $1\frac{1}{2}$ in. near the lip, 2 in. near the joint, and only $1\frac{1}{4}$ in. at the middle. The processes at the joint have not been altered in any way, and the rubbing down to produce a cutting edge extends back only about $5\frac{1}{2}$ in. The tool bears evidence of long use. Nottawasaga. David Melville.

60. Five wolf's teeth. Village site. Nottawasaga. Lougheed col.

61. Cylindrical bone $3\frac{1}{4}$ in. long, and $\frac{5}{16}$ in. diameter, rounded at one end. Humberstone Tp. Cyrenius Bearss.

75. Portion of human skull like No. 10. Vaughan Tp. Dr. Orr, Maple.

ESKIMO. Presented by F. F. Payne, Esq.

62. Comb, $2\frac{1}{2}$ in. from back to point of teeth, $1\frac{1}{2}$ wide.

63. Four pendants, conical and perforated at flattened ends.

64. Powder measure, $1\frac{5}{8}$ in. long, $\frac{1}{2}$ in. wide and $\frac{1}{2}$ in. deep. Formed somewhat like a grocer's scoop. A small hole for suspension when carried is bored through the lower corner of the larger end.

65-66. Two human figures in bone, $1\frac{3}{4}$ in. long.

67. Forty-three pieces of bone from $\frac{5}{8}$ to $1\frac{5}{8}$ in. long, and from $\frac{3}{8}$ in. to $\frac{5}{8}$ wide, generally decreasing in width towards one end which is rounded. These are marked like dominoes. The highest number on this set is 39. The game is not played as are dominoes, but seem to be a kind of grab-game.

68. Bone thimble.

69. Bear, $1\frac{3}{4}$ in. long.

70 Seal, $1\frac{5}{8}$ in. long.

71. Fish, with fins and tail, $1\frac{1}{2}$ in. long.

72. Water-fowl, $1\frac{1}{2}$ in. long.

73. Dog, 1 in. long.

74. Toothpick, about 2 in. long.

CASE H.

BONE AND HORN.

1 to 24. Bone awls or needles from 7 in. to 3 in. long. York Tp. Wm. G. Long.

25. Eyed needle, $3\frac{3}{4}$ in. long, $\frac{1}{4}$ in. wide and $\frac{1}{16}$ in. thick in middle, oval hole, $\frac{3}{16}$ in. long and less than $\frac{1}{16}$ wide at an in. from end. Grooves on both sides extending from ends of hole, bone slightly curved, with natural hollow on concave side. Both ends thinned and rounded, but left flat. Point end the more so, being highly polished and very sharp. York Tp. Wm. G. Long.

26 to 37. Bone awls from $3\frac{1}{2}$ to $2\frac{1}{2}$ in long. Various localities.

38 to 43. Bone awls from $4\frac{1}{2}$ to 3 in long. York Tp. B. Jackes, Toronto.

44 to 45. Bone awls. London Tp. M.

46. Bone awl. Onentisati, Simcoe Co.

47 to 49. Bone awls. Beverly Tp. Dwyer col.

50 to 54. Tarsal bones of deer, two are ground flat on both sides exposing the cavity, one has had the larger end cut wholly out and a small hole bored obliquely through the opposite end. One has been ground flat on one side but is otherwise intact, and one has been bored into from each end.

55. Two fragments of horn implements and two splintered bones, (one whittled) from kitchen midden, British Columbia. Jas. Johnson, Vancouver.

56. 2 bone awls, $5\frac{1}{2}$ in and $2\frac{3}{4}$ in long. Dumfries Tp., near Galt. Jas. G. Caven, Toronto.

57. Almost cylindrical bones, 2 in. long and $\frac{3}{8}$ in. diameter, rounded at both ends. Nottawasaga. Loughheed, col.

58. Bone, small, 3 in. long, cut at both ends, has one notch; perhaps a tally or record bone. Beverly.

59. Bone $3\frac{1}{4}$ in. long and from $\frac{1}{2}$ in, to $\frac{3}{4}$ in. in diameter, cut at both ends. Either a bead or a tally bone. Beverly.

60. Five bone beads from 2 in. to $3\frac{3}{8}$ in. long. Nottawasaga. Thos. White.

61 to 64. Four bone beads, respectively, $4\frac{1}{4}$, $2\frac{1}{8}$, $2\frac{3}{8}$ and 1 in. long. Y. P. col.

65. Deer-horn tip, cut at large end and ground at point, 5 in. long Y. P. col.

66. Cylindrical bone $3\frac{3}{8}$ in. long, general diameter 5-16 in., rounded at both ends. From larger end two parallel lines have been scratched lengthwise $1\frac{1}{2}$ inches between which are four diagonal crosses.

67. Horn tip $3\frac{3}{8}$ in long, ends rounded, weathered. Y. P. col.

68. Horn tip 2 in. long, ends rounded. Y. P. col.

69. Cylindrical bone bead $3\frac{1}{8}$ in. long and $\frac{1}{2}$ in. diameter. Guelph Tp. Dr. Hugh G. Roberts.

70 to 72. Three bone beads respectively $3\frac{1}{4}$, $1\frac{3}{8}$ and $1\frac{1}{8}$ in. long. Beverly.

73. Oblong section of horn 2 in. long, smoothed on all sides and one end; other end broken off. Has four transverse slight cuts on outer side, as if marked for cutting off. Beverly. Dwyer col.

74. Tally bone 3 in. long, $\frac{3}{8}$ in. diameter, triangular at one end and rounded at the other. Has three rows of small notches on edges extending in line of angles. On each of two rows are twenty-nine cuts, and on the third twenty-eight. Beverley. Dwyer col.

75 to 80. Six bone beads about 1 in. long. Waterdown.

81. Heavy bone bead $3\frac{7}{8}$ in. long and $\frac{1}{2}$ in. by 1 in. diameter. Dumfries Tp.

82. Bone bead $2\frac{3}{8}$ in. long. Dumfries Tp.

83 to 85. Three bone beads, 3 in., $2\frac{3}{4}$ in. and $2\frac{1}{2}$ in. long. Sarnia Tp.

86. Bone 2 in. long and 1 in. diameter, cut off squarely at smaller end leaving small portion of detached section adhering. Larger end has eight notches deeply cut leaving the margin like saw teeth round the cavity. Beverley. Dwyer col. A doubtful specimen.

87. Tarsal deer-bone, rubbed down a little on one side, opposite has four cross-bars of a dark color as if burnt. Dumfries Tp.

88. Tarsal deer-bone, on one side ground flat exposing cavity at upper end. Opposite side ground in such a manner as to suggest a whistle. Dumfries Tp.

89. Portion of deer-horn, near base 3 in. long, marks of cutting at both ends. Beverley.

90. Tally-bone (?) $2\frac{1}{4}$ in long, triangular cross section; although slightly notched as in the case of those that seem to be records, this is somewhat dubious as the markings appear to be without any method or arrangement. Most of them also are on one of the flat sides and not along the ridges. Beverley. Dwyer col.

91. Bone bead 1 in. long, with two small notches near the larger end. Beverley. Dwyer col.

92. Fragment of bone $1\frac{1}{8}$ in. long with serrated edge and two deeply cut lines lengthwise. Beverley. Dwyer col.

93. Tally-bone $2\frac{3}{4}$ in. long, with three rows of lightly cut notches, counting respectively twenty-one, fourteen and fourteen. Beverley. Dwyer col.

94. Bone needle or awl $5\frac{1}{4}$ in. long, both ends damaged. Nottawasaga. Loughheed col.

95. Tally-bone $3\frac{3}{8}$ in. long, notched on two ridges, total number twenty-eight or twenty-nine. Beverley. Dwyer col.

96. Small piece of bone $\frac{5}{8}$ in long, split, cut and smoothed at each end. Nottawasaga. Loughheed col.

97-100. Four bone beads, $4\frac{5}{8}$, $4\frac{3}{8}$, $4\frac{1}{4}$ and $2\frac{3}{4}$ in. long.

101. $2\frac{1}{4}$ in. long and $\frac{3}{8}$ in. wide at widest part. Less than $\frac{1}{8}$ in. thick, lance-shaped with notches forming a neck $\frac{1}{4}$ inch from wide end.

102. Horn bead, $1\frac{3}{4}$ in. long. Ohio, U. S. Soc. of Nat. Hist. Cincinnati.

103. Bone bead, $1\frac{5}{8}$ in. long. " " " " "

104. Bone bead, $\frac{5}{8}$ in. long. " " " " "

105. Cylindrical bone, $1\frac{1}{2}$ in. long, ends rounded like No. 57. Ohio, U. S. Soc. of Nat. Hist., Cincinnati.

106. Tally-bone 4 in. long, almost round at smaller end and oval (one side depressed) at the other, average diameter $\frac{1}{2}$ in. $1\frac{5}{8}$ in. from the larger end

and extending towards middle are two rows of markings, numbering in each case twenty-eight.* Tidd's Island, R. St. Lawrence.

107. Deer-horn tip bored out, $2\frac{7}{8}$ in long. Ohio, U. S. Nat. Hist. Soc. of Cincinnati.

108. Horn chisel pointed, 5 in. long. Ohio. Nat. Hist. Soc. of Cincinnati.

109. Idem, point broken.

110. Splintered bones, ash-heap. Lake Medad.

111. Small bone chisel. Nottawasaga. David Melville.

112. Bone awl or needle 6 in. long. Nottawasaga. Wm. Melville.

CASE. J.

SHELL.

1. Beads or wampum made from columellæ of *pyrula perversa*, probably. Beverly Tp. Dwyer col.

2. Four beads from $2\frac{1}{2}$ to 4 in. long and from $\frac{1}{4}$ in. to $\frac{1}{2}$ in. diameter, from columellæ of large shell, (species not identified) Beverly. Dwyer col.

3. Wampum (discs) from $\frac{1}{4}$ in. to $\frac{5}{8}$ in. diameter and averaging under $\frac{1}{8}$ in. thick. This large number was found in an ossuary in Beverly. Dwyer collection. Some of them (in one instance six) adhere face to face, showing that they had been carried or worn that way and not edge to edge as they are usually strung in collections.

4. Eight fragments of *p. perversa*, broken and cut in preparation for the making of wampum. Nottawasaga. Chas. Smith, Smithdale.

5. Six fragments of large shell partly cut in preparation for wampum. Nottawasaga. Lougheed col.

6. Two fragments, ditto. Beverly. Jas. Rae.

7. Two strips, ditto. Beverly. Dwyer col.

8. Three pieces. Two bored at margin and one about an inch long and $\frac{3}{8}$ inch wide, marked off into ten small squares.

9. Four fragments of *p. perversa*. Beverly Tp. Jas. Rae.

10. Fragment of large shell. Beverly. Dwyer col.

11. Two spiral shells from which the body whorls have been cut, leaving the columellæ bare. Through the anterior end of one a small hole has been bored. Nottawasaga. Lougheed col.

12. Spiral shell, bored through the tip. Nottawasaga. Lougheed col.

13. Wampum, (disc and cylinder). Nottawasaga. Lougheed col.

14. Wampum (disc) Beverly. Dwyer col.

15. Wampum, one large disc, fully $\frac{3}{4}$ in. diameter and four cylinders from $\frac{1}{2}$ in. to $1\frac{7}{16}$ in. long. Nottawasaga. Lougheed col.

16. Wampum (discs) Baby Farm, York Tp. W. Kirkwood.

* The recurrence of 28 and the lesser multiples of 7 are suggestive of lunar computation of time. Compare Nos. 93 and 95. Even in No. 90 the markings count not more than thirty, but lack of order and precision makes the number uncertain.

17. Solid cylinder $\frac{1}{2}$ in. long and $\frac{3}{8}$ in. diameter. Beverly Tp. Dwyer col.
 18. Triangular bead. Beverly. Dwyer col.
 19. Bead, columellæ of *p. perversa*, with hole through middle of side to meet other hole from end. Beverly. Dwyer col.
 20. Eight beads, cylindrical. Some of these are very beautifully made. Baby Farm, York Tp. W. Kirkwood.
 21. Pendants (two). Beverly tp. Rae collection.
 22. Half of circular ornament $\frac{7}{8}$ in. diameter and $\frac{3}{16}$ in. thick, bored through edgewise and ornamented with dots round the margin as well as across. S.
 23. Two triangular pieces of unio. Edges smoothed. Perforated near one angle.
 24. Two long cylindrical beads and four small ditto. The latter probably of European manufacture. Beverly. Dwyer col.
 25. Two beads (cylindrical). One $1\frac{1}{2}$ in. long and $\frac{1}{4}$ in. diameter is only bored a short distance from each end in the direction of its length, and holes are bored from the sides near the end to meet these. Beverly. Rae col.
 26. Wampum (purple, nine pieces, discs). Nottawasaga. Lougheed collection.
 27. Pendant, 2 inches long, $\frac{3}{8}$ inch diameter. Hole bored at one end and through corner. Nottawasaga. Lougheed col.
 28. Two fragments of beads. Nottawasaga. Lougheed col.
 29. Bead partly bored. Nottawasaga. Lougheed col.
 30. String of columella beads. Y. P. col.
 31. String of columella beads (small). Y. P. col.
 32. String of wampum (disc). Y. P. col.
 33. String of wampum (disc) Y. P. col.
 34. String of wampum (disc). Y. P. col.
 35. Unio valve, ossuary. Beverly. Dwyer col.
 36. Three unio valves, ossuary. Ste. Marie. Simcoe County.
 37. Large spatulate ornament, 8 in. long, 3 in. at widest and narrowing to rounded end about $1\frac{1}{4}$ in. across. Has two holes, one near middle and one near large end.
 38. Ornament 2 in. long; half oval across short diameter. Hole bored near edge in middle of short side.
 39. Circular ornament about $2\frac{3}{4}$ in. diameter. Has a $\frac{3}{8}$ inch hole near centre and two small holes $\frac{7}{8}$ in. apart, near edge.
 40. Circular ornament $3\frac{3}{4}$ in. diameter, bored as in No. 39.
 41. Half of ornament, originally larger than No. 40, bored in the same way as No. 39.
 42. Fragment of ornament like Nos. 39 and 40.
 43. Similar to Nos. 39 and 40. Stained green, with copper.
- No. 37 to 43 inclusive form part of the contents of a grave opened on the east side of Blackfriar's Bridge, London, Ont., in 1849, by a Mr. John McDowell. M.
44. Gouge—Barbadoes, W. I., Toronto Nat. Hist. Soc.
 45. Gouge—Barbadoes, W. I., Toronto Nat. Hist. Soc.

46. Two unio valves with large hole punched through centre of each. Cincinnati Nat. Hist. Soc.
47. Wampum ("cock-spur shells"). Pacific coast. D. H. Price.
48. Circular ornament, like No. 39 to 43, but without the middle hole. Norfolk county. S.
49. Four unio valves from ash-heap. Lake Medad.
50. Is much like No. 37, but shorter and broader. Three holes are bored across the widest part, about $1\frac{1}{2}$ in. from the end. This is one of a few old gifts to the Institute but has no record.
51. Wampum (discs). Humberstone Tp. Mrs. Barney, sen.
52. Five pieces of black wampum (discs), two cylindrical and one serpentine bead. Y. P. col.
53. Wampum—unfinished specimen, incomplete rounding and boring. Beverly. Dwyer col.
54. Bead, $3\frac{1}{2}$ in. long, side broken exposing hole. Nottawasaga. Lougheed col.
55. Bead (cylindrical). Near Sarnia. S.

CASE K.

GOUGES.

1. $7\frac{1}{2}$ in. long; width at mouth or edge, $1\frac{3}{4}$ in.; hollowed, $3\frac{3}{4}$ in.; tapers to rounded head about $\frac{3}{8}$ in. in diameter, Limestone. Western Ontario.
2. $8\frac{1}{4}$ in. long; mouth, 2 in.; width in middle, $2\frac{3}{8}$ in.; at head $1\frac{3}{4}$ in.; thickness in middle, $1\frac{1}{4}$ in.; hollowed 4 in. Groove flared near lip. Sides sharply cut and narrowing rapidly towards top. York tp. James Kirkwood.
3. 7 in long; $2\frac{1}{8}$ wide at mouth; scarcely any taper; $1\frac{1}{4}$ in. thick; hollowed 3 inches, slightly; head broken. Striped slate. Ancaster. William Forbes.
4. $10\frac{1}{2}$ in. long; mouth rounded and $1\frac{3}{8}$ in. wide; width in middle, 2 in., tapering to $\frac{3}{4}$ in. at head; hollowed 8 in. slightly. Edges of hollowed side from top to mouth comparatively straight. Opposite side sharply rounded transversely and much curved lengthwise; greatest thickness being $1\frac{3}{4}$ in., and tapering to $\frac{3}{8}$ in. at head. Granitic. Victoria County.
5. $5\frac{3}{8}$ in long; $1\frac{1}{4}$ in. wide, tapering slightly to head; hollowed, $2\frac{1}{2}$ in.; sides flat; $\frac{5}{8}$ in. thick. Erin Tp. R. McRae.
6. 6 in. long; width at mouth, $1\frac{7}{8}$ in.; at head, $1\frac{1}{4}$ in.; hollowed, $2\frac{3}{4}$ in.; $1\frac{1}{4}$ in. thick. Upper side flat; lower rounded throughout. Granitic. Humberstone Tp. Cyrenius Bearss.
7. $3\frac{7}{8}$ in long; width at mouth, $1\frac{7}{8}$, tapering to rounded top about $\frac{5}{8}$ in. diameter; hollowed, 2 in, slightly. Greatest thickness near head, $\frac{7}{8}$ in. Granitic. Adjala Tp. Mr. Connor, Toronto.
8. $6\frac{1}{4}$ in. long; width at mouth, $1\frac{3}{8}$ in.; at head, $1\frac{1}{2}$ in.; hollowed, 3 in., as in No. 2. Greatest thickness, $1\frac{1}{8}$ in. Compact greenstone. Near Lindsay.

9. 9 in. long; width at mouth, 2 in. No taper. Hollowed, 4 in. Head broken. Upper side flat, lower side rounded throughout. Blue slate. Victoria County. S.

10. $8\frac{3}{4}$ in. long; width at mouth, $1\frac{3}{4}$ in. Lip rounded, tapers to rounded head. Hollowed, 5 in. Greatest thickness, $1\frac{1}{2}$ in. Dark limestone. Chingua-cousy Tp.

11. $9\frac{1}{2}$ in. long; width at mouth, $1\frac{3}{4}$ in. Tapers to rounded head. Hollowed 4 in. Sides flat, edges rounded. Greatest thickness, $1\frac{3}{8}$ in. Victoria County. Jas. Dickson.

12. $6\frac{1}{2}$ in. long; width at mouth, $1\frac{7}{8}$. Tapers to $\frac{3}{4}$ in. * Hollowed total length, deeply; the edges left along the sides of the groove being only about $\frac{1}{8}$ in. wide. Pilkington Tp.

13. $8\frac{1}{2}$ in. long; width at mouth, $2\frac{1}{4}$ in.; at head, $1\frac{1}{2}$; hollowed, $3\frac{1}{2}$, as in Nos. 2 and 8; greatest thickness, $1\frac{3}{8}$. Buff colored material, resembling lithographic limestone. Near Belleville. S.

14. $7\frac{3}{8}$ in. long; width at mouth, $1\frac{3}{4}$ in.; in the middle nearly 2 in. Tapers very slightly to rounded head. Hollowed, 3 in.; greatest thickness, $1\frac{1}{2}$ in. Much weathered. Granitic. No locality. Y. P. col.

15. 6 in. long; width at mouth, $1\frac{7}{8}$ in. Tapers to 1 in. at flattened head. Hollowed $3\frac{1}{2}$ in. Granitic. Victoria County. Jas. Dickson.

16. $6\frac{1}{2}$ in. long; width at mouth, $1\frac{3}{4}$ in. Tapers to $1\frac{1}{4}$ in. at flattened head. Upper side flat, lower side rounded except near head where it is flat, giving head a triangular look when viewed endwise. Hollowed $3\frac{1}{2}$ in. Greatest thickness, $1\frac{1}{4}$ in. York Tp. Jas. Kirkwood.

17. $7\frac{1}{4}$ in. long, and $2\frac{1}{4}$ wide. Hollowed 3 in., slightly; other portions rounded. Blue slate. York Tp. Jas. Kirkwood.

18. 10 in. long; width at mouth, $2\frac{1}{8}$ in., tapering to 1 in. at head. Hollowed from end to end, deeply; $1\frac{1}{4}$ in. at lip, and $\frac{1}{4}$ in. at head. Greatest thickness, $1\frac{3}{4}$ in. Material like No. 13. Victoria County. S.

19. $4\frac{1}{2}$ in. long; width at mouth, $1\frac{1}{2}$ in., tapering gently to head. Hollowed $2\frac{1}{4}$ inches. Upper side flat, lower rounded. Head a little broken. Greatest thickness, $\frac{7}{8}$ in. Granitic. Pilkington Tp.

20. 14 in. long; width at mouth, $1\frac{3}{4}$ in.; at head, $1\frac{3}{4}$ in.; hollowed, 5 in. Lower side and both edges flat for 4 in. at mouth end, the corners only being rounded to correspond with the groove; all remaining portion rounded. Limestone. No locality. John Hind.

21. 6 in. long; width at mouth, 2 in., tapering to 1 in. at head. Hollowed, 2 in. Thickness, 1 in. Schistose slate. Western Ontario. S.

22. $3\frac{1}{2}$ in. long; width at mouth, 2 in.; at head, $1\frac{1}{4}$. Hollowed slightly from end to end. Granitic. Pickering Tp. G. Welborne.

23. $3\frac{1}{2}$ in. long; width at mouth, $1\frac{5}{8}$, tapers to rough head about 1 in. across. Hollowed slightly, $1\frac{1}{2}$ in. Lower side ridged. Gneiss. Pike's Farm, Wolfe Island.

24. $3\frac{1}{4}$ in. long; width at mouth 1 in., tapers to $\frac{1}{2}$ in. at head. Hollowed deeply the whole length. Greatest thickness, $\frac{1}{2}$ inch. Port Perry. S.

25. $3\frac{1}{4}$ in. long; width at mouth, $1\frac{1}{8}$ in. Hollowed 2 in., as in Nos. 2, 8 and 13. Thickness, $\frac{1}{2}$ in. No locality. S.

26. 5 in. long; width at mouth 2 in. Tapers (with slight depression on each side mid-way) to rounded head $1\frac{1}{4}$ in. Can barely be called a gouge

as the hollow is scarcely $\frac{1}{8}$ in. deep, and extends but a short distance from the lip. Upper side flat, lower round and curved lengthwise. West Middlesex. M.

27. $7\frac{3}{4}$ in. long; width at mouth $2\frac{1}{2}$ in. Tapers with slightly convex sides to rounded head about $1\frac{1}{4}$ in. dia. Hollowed only about $1/16$ in. at lip, and only $\frac{3}{4}$ inch at back. Upper side flat, lower round. Granite. West Middlesex M.

28. $7\frac{3}{4}$ in. long; width at mouth $1\frac{1}{2}$ in. A little wider in middle. Head 1 in. dia. Hollowed slightly, $2\frac{1}{2}$ in. from lip, upper side flat, lower rounded and much curved lengthwise. No locality. Y. P. col.

29. $8\frac{1}{4}$ in. long; width at mouth $1\frac{7}{8}$ in. Tapers to 1 in. Well rounded head. Hollowed $3\frac{1}{4}$ in. deeply. Upper side slightly rounded, lower side very much. Immediately behind groove, but on the under side a transverse groove has been cut for handle attachment. Granite. McGillivray Township. M.

30. $6\frac{1}{4}$ in. long; width at mouth $1\frac{3}{4}$ in. Tapers to $\frac{5}{8}$ in. at rounded head. Hollowed slightly for $2\frac{1}{2}$ in. Upper side flat. Granite. West Middlesex. M.

31. $6\frac{3}{4}$ in. long; width at mouth $1\frac{5}{8}$ in. Sides convex. Head $1\frac{3}{8}$ in. Hollowed slightly $1\frac{1}{2}$ inches from lip. Upper side flat. Granite. West Middlesex. M.

32. 6 in. long; width at mouth $2\frac{1}{8}$ in. Tapers to rounded head 1 inch. Hollowed deeply $2\frac{1}{2}$ in. Upper side flat. Head rounded. McGillivray Township. M.

33. $4\frac{1}{2}$ in. long; width at mouth $1\frac{3}{4}$ in. Tapers to rough head $1\frac{1}{4}$ in. Hollowed from end to end deeply. Serpentine. No locality S.

34. $5\frac{1}{2}$ in. long; width at mouth $1\frac{3}{4}$ in. Tapers rapidly to $\frac{3}{4}$ in. at broken head. Hollowed from end to end deeply. Thickness $1\frac{3}{4}$ in. in middle. Lower side has two sharply cut notches as if for binding to a handle. These are $\frac{5}{8}$ in. apart, the lower one being $3\frac{1}{8}$ in. from lip. They extend only half way round. Brookfield, Mo. Dr. Rear, Toronto.

35. 4 in. long; width at mouth $1\frac{5}{8}$ in. Tapers to $\frac{1}{2}$ in. at smoothly rounded head. Hollowed from end to end. 1 in. thick. Addington County. Dr. T. W. Beeman, Perth. (O. L.)

36. $5\frac{1}{8}$ in. long; width at mouth $1\frac{1}{2}$ in. expanding for remainder of length to $1\frac{7}{8}$ in. Hollowed $2\frac{1}{8}$ in. Thickness $\frac{1}{2}$ in. Head rough. Lanark County Dr. T. W. Beeman, Perth. (O. L.)

37. $6\frac{1}{4}$ in. long; width of mouth (which is rounded) $1\frac{7}{8}$ in. Hollowed very slightly nearly the full length. West Middlesex. M.

38. $5\frac{7}{8}$ in. long; width of mouth $1\frac{7}{8}$ in., expands slightly and tapers to $1\frac{1}{2}$ in. at head. Hollowed $2\frac{5}{8}$ in. Upper and lower sides flat, with corners chamfered. Thickness 1 in. Argillite. Humberstone Tp. Gustav Utz.

39. $8\frac{1}{2}$ in. long; width at mouth $1\frac{1}{2}$ in., enlarges behind to $1\frac{7}{8}$ in. Tapers to rough head 1 in. Hollowed $3\frac{1}{2}$ in. Sherbrooke Tp. Dr. T. W. Beeman, Perth. (O. L.)

CASE L.

STONE PIPES.

1. Nottawasaga Tp. Loughheed col.
2. Nottawasaga Tp. Wm. Smith, Toronto.
3. Nottawasaga Tp. Herbert Connor.

4. Orillia. S. G. Plunkett, Toronto.
5. Albion Tp. S.
6. Eglinton, York Tp. Y. P. col.
7. Eglinton, York Tp. Y. P. col.
8. Sault Ste Marie. Y. P. col.
9. Eglinton, York Tp. Y. P. col.
10. Eglinton, York Tp. Y. P. col.
11. Eglinton, York Tp. Y. P. col.
12. Eglinton, Y. Tp. York P. col.
13. Victoria Co. S.
14. Nottawasaga Tp. Loughheed col.
15. Nottawasaga Tp. Loughheed col.
16. Kent Co. Y. P. col.
17. Nottawasaga Tp. Loughheed col.
18. Probably modern North-west. Y. P. col.
19. Newmarket. Stew. col.
20. Burlington Beach. Y. P. col.
21. Nottawasaga Tp. Loughheed col.
22. Nottawasaga. Loughheed col.
23. Forest. S.
24. Near Milton. Finlay McCallum.
25. Victoria Co. Dickson col.
26. Modern North-West. Y. P. col.
27. Markham. S.
28. Nottawasaga Tp. Catlinite. Ed. Beecroft.
29. Modern Northwest. Catlinite. Y. P. col.
30. Victoria Co. Dickson col.
31. Beverly Tp. A. McKnight.
32. Nottawasaga Tp. Loughheed col.
33. York Tp. Y. P. col.
34. Nottawasaga Tp. Loughheed col.
35. Tremont Park, Tidd's Island. C. A. See.
36. Plympton. S.
37. Nottawasaga Tp. Loughheed col.
38. Pembina. Manitoba. S.
39. Nottawasaga Tp. Ed. Coyle.
40. Kincardine. M.
41. Ste. Marie, Simcoe Co.
42. Stem catlinite modern North-west. York P. col.
43. West William Tp. M.
44. Wiarton. M.

45. Nottawasaga Tp. Dugald Currie.
46. London Tp. M.
47. Wiarton. M.
48. Nottawasaga Tp. Loughheed col.
49. York Tp. Y. P. col.
50. Lake Moira, near Madoc. Mr. Moon.
51. Richmond Hill. Alex. and Arthur Boyle.
52. Miami valley. C. J. B. Ratjen, Lawrenceburg, Ind.
53. York Co. Y. P. col.
54. Simcoe Town. S.
55. Boone Co., Kentucky U. S.
56. Pittsburg Tp. Frontenac Co. W. G. Kidd, Kingston,
57. Nottawasaga Tp. Mr. Duff.
58. Nottawasaga Tp. Herbert Connor.
59. London Tp. M.
60. Grand Bend, Sable River. M.
61. McGillivray Tp. M.
62. Bay of Quinte, (pewter or lead). Dr. T. W. Beeman (O. L.)
63. Qu'Appelle R. Valley, N, W. T. Jas. C. Stokes.
64. Dakota, U. S. (catlinite) Dr. Rear.
65. Eglinton, Y. Tp. Y. P. col.
66. Lake Medad, ("white stone.") Y. P. col.
67. Burlington Beach. Y. P. col.
68. Pacific Coast, Brit. Columbia. Y. P. col.
69. Blood Indian (modern) Rev. John McLean.
70. Modern. " "

CASE M.

MAINLY OF SLATE.

Bird Amulets.

1. $5\frac{3}{4}$ in. long and $\frac{3}{4}$ in. across middle of base, neck $2\frac{1}{8}$ in. long and only $\frac{3}{8}$ in. (at crown of head) above level of back. The attempt to represent a head is very simple, the neck being sloped off at about 45° a slight downward curve on the under side adding to beak appearance. Tail at widest part $1\frac{1}{8}$ in. erected at angle and stands $\frac{3}{8}$ in. higher than back, length of base 3 in., slightly hollowed lengthwise and a little rounded transversely. Aurora, York Co. S.

2. $3\frac{1}{4}$ in. long and $\frac{5}{8}$ in. across middle of base, which is 2 in. long, neck erect, crown of head $1\frac{1}{4}$ in. above base, head $1\frac{5}{8}$ in. long, beak from $\frac{5}{8}$ in. deep in front

of eyes, to $\frac{1}{4}$ at end. Peduncled eyes, only part of one now left, tail erect and $1\frac{3}{8}$ inches long from base. Base very slightly hollowed lengthwise, otherwise flat. No locality. S.

3. 3 in. long, head and tail erected at about 45° ; from crown to tip of beak 1 in. Peduncled eyes $\frac{3}{4}$ in. in diameter the upper portion of them rising $\frac{1}{4}$ in. above crown of head. Bar across base at each end and projecting about $\frac{3}{16}$ below base. Thorndale, Perth Co. S.

4. $3\frac{1}{8}$ in. long, neck erect, sharp curve forming crown of head and continuation of curve forming beak. Lower curve more circular. width of head from crown to neck 1 in. Base $1\frac{7}{8}$ in. long, $\frac{1}{2}$ in. wide and convex both ways. S.

5. $4\frac{1}{2}$ in. long, neck erect, crown of head $1\frac{7}{8}$ in. above base. Head formed as in No. 4. No tail. The original hole through rear end having been broken out, a new one has been bored coming out on the top. Base $2\frac{3}{4}$ in. long and $\frac{3}{4}$ wide, slightly convex in both directions. York Tp. (?)

[This handsome specimen was presented to the museum about three years ago. It was handed in by the gentleman who owned it, but unfortunately the record of its reception has been lost. Should the owner recognize it by the above description, or by seeing it in the case, he will confer a favor by addressing the curator.]

6. 3 5-16 in. long, the outline is similar to that of No. 4. Base $1\frac{3}{4}$ in. long and $\frac{5}{8}$ in. wide; convex in both directions. S.

7. $4\frac{5}{8}$ in. long. Head and tail on line with back, except for slight depressions to form neck and flatten tail. Base $1\frac{5}{8}$ in. long with heavy transverse bar at each end. From front bar to tip of beak is $1\frac{7}{8}$ in. and from rear bar to end of tail $1\frac{1}{2}$ in. The tail is $1\frac{5}{8}$ in. wide. At the shoulders the specimen is $1\frac{1}{4}$ in. wide whence it narrows rapidly to tip of beak. Brantford. S.

8. 3 5/16 in. long, neck and head raised a little, tail depressed and pointed. Base 2 in. long, $1\frac{5}{8}$ in. wide and barred. It is quite impossible to write an intelligible description of this singular specimen. The eyes project but have no disc. They stand out 3-16 in. from the head and terminate in a rounded end, less than $\frac{1}{8}$ in. diameter. The material is huronite. Port Rowan. S.

9. $4\frac{3}{8}$ in. long, neck and tail almost at right angles to body. Base $2\frac{1}{4}$ in. long and $\frac{5}{8}$ in. wide. Tail $1\frac{3}{8}$ wide and $1\frac{5}{8}$ in. from base to end. The head from crown to point of beak is 2 in. and is at right angle to neck, tapering from $\frac{1}{2}$ in. to 3/16. Biddulph Tp., Middlesex. M.

10. $5\frac{3}{4}$ in. long, neck and tail erect and rising $\frac{1}{2}$ in. above back. Breast forms nearly a right angle with base. Tail more oblique with a central rib in continuation of sharp ridge forming the whole upper outline. Head from breast to point of back $2\frac{1}{4}$ in. Tail from base $1\frac{1}{8}$ in. Base 3 in. long and $\frac{5}{8}$ in. wide, concave lengthwise and concave across. Brown and purple veined argillite. London Tp., Middlesex Co. M.

11. $5\frac{1}{2}$ in. long, neck rises high. Crown of head $2\frac{3}{8}$ in. above base. Head from curve of throat to point of beak 1 in. long. Tail from base $1\frac{3}{8}$ in. and same width as body. Base $3\frac{1}{8}$ in. long and $13/16$ in. wide, slightly convex in both directions. McGillivray Tp., Middlesex Co. M.

12. $3\frac{5}{8}$ in. long, head above base $1\frac{3}{8}$ in. Tail above base 1 in. and ribbed. Base $2\frac{1}{2}$ in. long and $9/16$ in. wide, convex in both directions. Stephen Tp., Middlesex Co. M.

13. $4\frac{1}{4}$ in. long. Head rises $1\frac{5}{8}$ in. above base. Tail broken. Base $2\frac{1}{4}$ in. long and $13/16$ in. wide, convex and twisted a little lengthwise—slightly convex across. West Williams, Middlesex Co. M.

14. $5\frac{1}{8}$ in. long. Head and neck almost on level with back, the two measuring $1\frac{1}{2}$ in. from shoulder. Tail rises $1\frac{3}{8}$ in. above base and of same width as body. Base $3\frac{1}{4}$ in. long and 1 in. wide. Front hole in base broken and no hole at rear angle. Base slightly convex both ways. McGillivray Tp., Middlesex Co. M.

15. $3\frac{3}{4}$ in. long, broken off at tail end. Form of head similar to Nos. 5 and 6. Pale pink granite. City of London, Middlesex Co. M.

16. This specimen is in many respects of the same unusual type as No. 8, but its condition is less perfect, both head and tail being damaged. The head fracture has been rubbed down pretty smoothly and the angularities of the tail fracture have been rounded off. All that remains of the left eye indicates pedimcultation but the disc is broken off. The body oval in outline, being 2 in. long and $1\frac{1}{2}$ in. wide. The thickness of the body from upper to lower side is only about half an inch. The material is the striped slate of which so many are made. East Williams, Middlesex Co. M.

16 $\frac{1}{2}$. $3\frac{3}{4}$ in. long. Neck elevated, head horizontal, eyes peduncled; one broken; tail almost horizontal and depressed marginally near body. Base $1\frac{3}{8}$ in. long $1\frac{1}{8}$ in. wide and barred. McGillivray Tp., Middlesex Co. M.

17. $2\frac{1}{8}$ in. long. Neck almost at right angles to body, head horizontal and crown $1\frac{3}{4}$ in. above base. Head from centre of crown $\frac{7}{8}$ in. and from throat $\frac{5}{8}$ in. long. Eyes peduncled, discs about $7/16$ in. diameter. Tail rises only a little above horizontal. Base $1\frac{3}{4}$ in. long, $1\frac{1}{16}$ in. wide and barred. This specimen seems to be in an unfinished condition as the holes have not been bored through the bars. The two extremities of the front hole have merely been marked. Huronite. West Williams Tp., Middlesex Co. M.

18. $6\frac{1}{4}$ in. long. Neck rises with a gentle curve, beginning within 1 in. of tail. Height of crown from base $1\frac{1}{2}$ in. Head $1\frac{1}{4}$ in. long, points downwards at angle corresponding to rise of neck, it is $9/16$ in. wide, about $3/16$ in. thick, square pointed and edge up. Eyes peduncled and projecting about $\frac{3}{8}$ in., discs about $\frac{1}{2}$ in. diameter. Base $3\frac{1}{2}$ in. long and varying in width from $9/16$ in. in front to $\frac{7}{8}$ in. behind. Tail rises at sharp angle $1\frac{1}{4}$ in. above base and is $\frac{7}{8}$ in. wide. This specimen is perfect in every respect and is admirably made. West Williams Tp. M.

19. $2\frac{3}{4}$ in. long. Crown of head same height as tail. Tail erect almost at right angle. Base $1\frac{3}{8}$ in. long, and $\frac{3}{4}$ in. wide. Convex both ways. W. Muma, Humberstone Tp.

20. $2\frac{7}{8}$ in. long. Neck in line with back and head pointing downwards. Crown surmounted with oval projection $7/16$ in. long and $3/16$ wide. Tail only a slight upward curve of back line about $\frac{1}{8}$ in. high. Base $1\frac{1}{2}$ in. long and $\frac{5}{8}$ in. wide, convex in both directions.

21. Tail fragment. McGillivray Tp. M.

22. Head and neck of bird-amulet. Peduncled eyes. One broken off. Upper edge of whole piece notched. A hole has been drilled through the neck end for secondary rise. S.

Unless where otherwise noted, all these are of striped slate, and are bored diagonally on each end at the under side.

25. $2\frac{3}{8}$ in. long, $1\frac{7}{16}$ in. wide, and $\frac{7}{8}$ in. thick in middle, decreasing at end to $\frac{1}{4}$ in. thick. Hole bored edgewise and oval, the longer diameter being on one side $\frac{3}{4}$ in., and on the other $\frac{5}{8}$ in. The specimen is hammer shaped, but shows no signs of use on ends. All the edges are square. Slate, faintly striped. Ontario. S.

26. $3\frac{1}{8}$ in. long, $1\frac{5}{8}$ in. wide, and $\frac{7}{8}$ in. thick. Ovate sidewise and edgewise. Bored One end broken. S.

27. $2\frac{3}{8}$ in. long, 1 in. wide and 1 in. deep. Port Rowan. S.

28. 2 in. long, $1\frac{11}{16}$ in. wide and 1 in. thick. Oval; flattened at each end. Hole $\frac{7}{16}$ in. diameter at one end, and $\frac{3}{8}$ at the other, bored lengthwise. Edges of specimen rounded, and one of them bearing nineteen notches crosswise, from $\frac{1}{8}$ to $\frac{1}{4}$ in. long. Striped slate. Western Ontario. S.

29. $1\frac{7}{8}$ in. diameter, and $1\frac{1}{2}$ in. thick, viewed from side it is perfectly circular. A hole $\frac{3}{8}$ in. in diameter is bored through the longer axis. On one side and parallel with the hole a hollow has been formed, the greatest width of which is fully one inch. Striped slate. West Williams Tp. M.

30. $6\frac{3}{8}$ in. long, $1\frac{1}{2}$ in. wide, and $1\frac{1}{8}$ in. thick in middle, ending in a blunt point at the extremities. All the sides are rounded smoothly, and a $\frac{7}{16}$ in. hole is bored through greater diameter of middle. Striped slate, brown. Wingham. S. (Perfectly symmetrical in every respect.)

31. $4\frac{3}{8}$ in. long, $1\frac{1}{8}$ in. wide, and $\frac{7}{8}$ in. thick. Finely rounded on all sides, and pointed at each end. A $\frac{3}{8}$ in. hole bored through middle. This specimen is similar in shape to No. 30, but one side is less curved than the opposite. Striped slate. Norfolk Co.

32. $3\frac{5}{8}$ in. long, $1\frac{1}{4}$ in. wide, and $\frac{7}{8}$ in. thick, tapering to point at each end. Hole $\frac{1}{4}$ in. diameter, bored through shorter diameter of middle. Brown striped and mottled slate. Caradoc Township. M.

Winged and Horned Specimens.

33. 5 in. long across tips of curved horns which are knobbed at ends, $1\frac{1}{8}$ in. deep in middle through which a $\frac{3}{8}$ in. hole is bored. Not quite symmetrical. Slate; weathered. Plympton Tp. S.

34. $6\frac{3}{4}$ in. from tip to tip of horns, which are terminated in handsome oval knobs. Depth in middle $1\frac{3}{8}$ in. Hole $\frac{7}{16}$ in. diameter. Same type as No. 33, but smoothly finished and perfect in symmetry. Zone Tp. S.

35. $5\frac{3}{8}$ in. from tip to tip of wings, which are flattened in line with the hole, nearly $\frac{7}{16}$ in. in diameter in middle, which is $\frac{7}{8}$ in. deep. The wings are curved to one side $\frac{5}{8}$ in. beyond the centre, and on the opposite side are two projections, each about $\frac{7}{8}$ in. from centre of hole, and extending fully the same distance beyond the body in the centre. One wing is a little longer and more pointed than the other. Light gray slate. Lake shore, Norfolk Co. S.

36. $6\frac{1}{8}$ in. across horns, which terminate in oval knobs sharply ridged on outer surface. Depth in middle $1\frac{1}{8}$ in. Dark striped slate. Specimen closely resembles No. 34, but has been broken across the hole and cemented. Highly finished. Forest. S.

37. $5\frac{7}{8}$ in. across wings, which are flattened in line with hole through the middle, which is $1\frac{3}{8}$ in. deep. The wings are about $1\frac{3}{4}$ in. wide at the broadest part, and not more than $\frac{3}{8}$ in. thick where they join the central portion, which is flat sided and rises with sharply marked shoulders above the sides of the wings. The thickness of the central portion is less than an inch, and the hole is $\frac{5}{8}$ in. in diameter on one side, and slightly less on the other. Brown argillite. Wingham. S.

38. $3\frac{1}{4}$ in. long, and $2\frac{1}{2}$ in. wide, irregularly quadrangular. Wings full breadth — ends have been broken off and rubbed down again. This has been effected by

some one recently, as the rubbing has been done to produce a sharp edge. A squarely cut notch $\frac{1}{2}$ in. deep and the same width is made on one side where the hole comes out. Hole $\frac{3}{8}$ in. diameter at this end, and $\frac{1}{2}$ in. diameter at the other. Striped slate. Port Perry. S.

39. $3\frac{1}{4}$ in. long, and 3 in. wide. One wing much damaged. Notched in middle at extremities of hole, which is about $\frac{3}{8}$ in. diameter. One notch $\frac{3}{4}$ in. deep, and one 1 in. deep. Specimen has been broken across hole and cemented. Slate. S.

40. $4\frac{1}{4}$ by $4\frac{1}{4}$ in. Each wing forms half of a six sided figure. Notches in middle between wings $1\frac{1}{2}$ inch deep. The hole has been bored through the entire width before the notches were made. Has been broken and cemented. One side of eye lost. One side of each wing injured. Wings less than $\frac{1}{4}$ in. thick. Brown slate. Y. P. col.

41. $4\frac{1}{2}$ in. long, and $3\frac{3}{16}$ in. wide. Outline approximately oval. Hole $\frac{3}{8}$ in. diameter. One notch $\frac{7}{8}$ in. deep, and one $\frac{5}{8}$ in. deep. Notches made after boring. Wings near middle about $\frac{1}{2}$ in. thick. Striped slate. Blanshard Township. M.

50. $3\frac{7}{8}$ in. long, $3\frac{1}{8}$ in. wide. Has been almost circular in outline when perfect. One wing broken. Notches between wings about $\frac{5}{8}$ in. deep, and as they are $\frac{5}{8}$ in. wide, the hole being only $\frac{3}{8}$ in. diameter, it is not possible to tell whether they were made before or after the boring. Striped slate. Mound in Perry Co., Ohio.

43. $4\frac{5}{8}$ inch long, and $2\frac{1}{2}$ in. wide. Approximately oval in outline. Wings $\frac{3}{8}$ in. thick near middle. No notches. Hole $\frac{7}{16}$ in. diameter at one side, and a little over $\frac{5}{16}$ at the other. Striped slate. McGillivray Tp. M.

44. $5\frac{1}{4}$ in. long, and $1\frac{7}{8}$ in. wide. Outline a long oval, somewhat pointed at the ends. Hole $\frac{3}{8}$ in. diameter. One side weathered. Brown striped slate tinged with blue. East Williams Tp. M.

45. $3\frac{1}{2}$ in. long, and $2\frac{1}{8}$ in. wide. Outline oval. Hole $\frac{3}{16}$ in. diameter. Notches $\frac{5}{8}$ in. deep and made after boring. At point of one wing a circular depression $\frac{7}{16}$ in. long and $\frac{1}{8}$ in. deep has been made. McGillivray Tp. M.

46. $3\frac{3}{8}$ in. long, and $1\frac{5}{8}$ in. wide. Hole $\frac{5}{16}$ in. diameter. Two half round depressions less than $\frac{1}{4}$ in. deep take the place of notches. Wings thick in proportion to size. Ends chipped as if used for hammering. Dark striped slate. McGillivray Tp. M.

47. $4\frac{1}{2}$ in. long, and $1\frac{1}{2}$ in. wide. Butterfly outline. Hole on more rounded side $\frac{1}{2}$ in. diameter; on the other under $\frac{3}{8}$ in. diameter. Striped slate. East Williams Tp.

48. $5\frac{1}{4}$ in. long, and $2\frac{1}{4}$ in. wide. Outline a pointed oval. Hole $\frac{3}{8}$ in. diameter at one end, and $\frac{1}{2}$ in. nearly at the other. No notches. Striped slate. West Williams Tp. M.

49. $4\frac{5}{8}$ in. long, and 3 in. wide. One wing is nearly an inch shorter than the other, and has been re-worked. Hole $\frac{3}{8}$ in. diameter. Only one side notched $1\frac{1}{2}$ in. deep. Striped slate. Biddulph Tp. M.

51. $2\frac{1}{4}$ in. long, and $1\frac{3}{4}$ in. wide. Wings triangular. Point of one broken. Hole about $\frac{3}{8}$ in. diameter, and walls very thin. Notches $\frac{5}{8}$ in. deep. A sharp ridge rises on the sides of the hole, and in line with it, making diameter across centre $\frac{7}{8}$ in. This is the smallest specimen of its kind in the collection. Striped slate. Vaughan Tp. Dr. Orr, Maple.

52. In outline like a pipe, but the hole (which is oval) pierces the "head" in line with the "stem." Upper edge of what may be called stem slightly grooved in continuation of curve made by lower side of hole. Stem $2\frac{1}{2}$ in. long. Upper side $\frac{5}{8}$ in. wide at angle and tapering to $\frac{1}{8}$ in. at point. Lower side brought to a rounded edge. Head $2\frac{1}{8}$ in. deep, $\frac{3}{4}$ in. thick, and $1\frac{1}{4}$ in. wide in direction of stem. Hole 11-16 by 5-16 in. diameter. Brown striped slate. No locality. S.

55. Fragment of a peculiar specimen, having apparently had two large and two small incurved wings. S.

56. Fragment of horned specimen. The horn rises in a curve almost in line with the hole. Simcoe Town. S.

57. One half of specimen like No. 30. Caradoc Tp. M.

59. One half of specimen similar to No. 57. M.

Tubes.

62. $3\frac{1}{2} \times 1\frac{3}{8} \times 1$ in. Striped slate. Forest. S.

63. $2\frac{7}{8} \times 1\frac{1}{4} \times 1$ in. Striped slate. Norfolk Co. S.

64. $2\frac{5}{8} \times 1\frac{3}{4} \times 1\frac{1}{8}$ in. Slate. Norfolk. S.

65. $5\frac{1}{4}$ in. long, and $1\frac{3}{8}$ in. diameter, perfectly round. Hole $\frac{3}{4}$ in. dia. This is a fragment of what is said to have been a tube at one time upwards of a foot in length. The material appears to be a fine close-grained limestone, resembling somewhat German lithographic stone, but darker. It takes a good polish. Mr. Galbraith, the gentleman who handed it in, said he remembered seeing it when whole. Unfortunately the record of its locality has been lost. Perhaps this notice will meet the gentleman's eye.

66. $6\frac{3}{4} \times 1\frac{1}{4} \times 1$ 1-16 in. Hole $\frac{3}{8}$ in diameter at one end and 5-16 at the other. Sides rounded. Cross section oval. Slate. Beverly Township. Miss Jessie Robertson, Valens.

67. $7\frac{5}{8}$ in. long. Almost round and tapering slightly from $\frac{7}{8}$ in. to $\frac{3}{4}$ in. diameter. Hole $\frac{1}{2}$ in. diameter at larger end, and $\frac{3}{8}$ at the other. Slate. S.

68. 4 in. long, and $1\frac{1}{8}$ in. dia. at larger end, tapering to an oval of 1 in. x 13-16 in. at the other end. Hole is flared at large end to nearly full dia. of tube. At small end it is also somewhat enlarged, being $\frac{1}{2}$ in. dia. at the tip, and barely $\frac{3}{8}$ in., half an inch in. The material is much like that of No. 65, but lighter in color. Wolfe Island.

69. $8\frac{1}{2}$ in. long, $1\frac{1}{8}$ in. dia. Almost perfectly round. One end slightly larger than main body, measuring nearly $1\frac{1}{4}$ in. Hole as in No. 68. Material similar, but darker in color, darker even than No. 65.

70. $3\frac{3}{4}$ in. long, $\frac{3}{4}$ in. dia. Broken. Slate. West Williams Tp. M.

71. $4\frac{1}{2}$ in. long, 1 in. x $1\frac{3}{8}$ in. dia. in middle. Sides rounded and tapering with convexity to about $\frac{5}{8}$ in. dia. at smaller end which is broken. Hole decreases from $\frac{5}{8}$ to $\frac{3}{8}$ in. Striped slate. McGillivray Tp. M.

72. 5 in. long, and $\frac{3}{4}$ in. dia. Two sides flattened and two rounded. Striped slate. McGillivray Tp. M.

73. 4 in. long, and $1\frac{1}{2}$ in. wide. Longitudinal fragment; shows side of hole. McGillivray Tp. M.

Bar Amulets.

20. $3\frac{3}{8}$ in. long, $1\frac{1}{4}$ in. wide, and $1\frac{1}{4}$ deep. Cross section triangular. Bosanquet Tp. M.

21. $3\frac{1}{4}$ in. long. Base $\frac{9}{16}$ in. wide, depth $\frac{1}{8}$ in. Boring of holes at each end incomplete. Scotland Village. S.

22. 3 in. long. Base nearly $\frac{3}{4}$ in. wide. Depth $\frac{7}{8}$ in. Both ends fractured on upper side. St. Mary's. S.

23. $3\frac{3}{4}$ in. long, nearly $1\frac{1}{8}$ in. wide, and $\frac{3}{4}$ in. deep. Cross section semi-circular. West Williams Tp. M.

53. 3 in. long, $\frac{3}{4}$ in. wide, and $\frac{7}{8}$ in. deep. Higher in middle than at ends; ends collared. No locality. Y. P. col.

24. $4\frac{3}{4}$ in. long, $\frac{3}{4}$ in. wide at ends, less in middle. $\frac{1}{2}$ in. deep. McGillivray Tp. M.

74. $4\frac{5}{8}$ in. long. Greatest dia. $1\frac{5}{8}$ in. Hole $\frac{3}{4}$ in. dia., bored $1\frac{3}{8}$ deep as if intended for a tube. Smaller end only about 1 in. diameter. Striped slate. West Williams Tp. M.

75. $4\frac{3}{8}$ in. long, $1\frac{3}{8}$ in. wide, and 1 in. thick. Sides rounded. Smaller at each end than in the middle. Striped slate. London Tp. M.

76. $3\frac{1}{4}$ in. long, and about $\frac{7}{8}$ in. dia. Broken at each end, Sides slightly rounded. Hole shows longitudinal markings deeply cut. Striped slate. Blanshard Tp. M.

77. $3\frac{3}{4}$ in. long, $1\frac{3}{8}$ in. wide. One side splintered but leaving hole intact. Sides rounded. Striped slate. Biddulph Tp. M.

84. Fragment of object like No. 52. This specimen is less in size than No. 52. but has been much more handsomely made. Striped slate. Biddulph Tp. M.

85. $6\frac{1}{4}$ in. long, fully 1 in. wide, and $\frac{3}{4}$ in. thick. Viewed from the edge it tapers to a point at each end. Viewed from the side the two edges are almost parallel. The ends are slightly hollowed, but the sides are perfectly flat. A $\frac{3}{8}$ in. hole pierces it edgewise in the middle. Under side weathered, but on the whole a beautiful specimen. Western Ontario. S.

86. Similar in almost every particular to No. 85, except that the ends are more deeply hollowed. Perth Co. P. R. Jarvis.

CASE N.

GORGETS OR TABLETS—TWO OR MORE HOLES.

The specimens in cases N and O are, almost without exception, made from slate. They vary very much both in size and shape. They appear to be considerably more plentiful in the western than in the eastern portion of the province. In many instances it is easy to believe that these were worn as gorgets or breast-plates, but in other specimens, especially some of those in case N, the number and position of the holes would seem to indicate a different use. One tablet has had as many as seven holes bored through it, some of them close to the edges and now partly broken off, others near the middle, and all apparently without any regularity.

1. St. Thomas. S.
2. Fingal. S.
3. No record. S.
4. Sarnia Tp. S.
5. Galt. S.
6. Orillia. S.
7. No record. S.
8. Caradoc Tp. S.
9. Near Stratford. S.
10. No record. York P. col.
11. St. Mary's. S.
12. No record. S.
13. Near Norwich. S.
14. Exeter. S.
15. London Tp. S.
16. Pilkington Tp.
17. Plympton Tp. S.
18. No record. S.
19. Eramosa Tp.
20. Owen Sound. S.
21. No record. S.
22. No record. S.
23. No record. S.
24. No record. S.
25. West Williams Tp. M.
26. McGillivray Tp. M.
27. McGillivray Tp. M.
28. West Williams Tp. M.
29. Thedford Tp. M.
30. West Williams Tp. M.
31. McGillivray Tp. M.
32. West Williams Tp. M.
33. West Williams Tp. M.
34. McGillivray Tp. M.
35. West Williams Tp. M.
36. West Williams Tp. M.
37. McGillivray Tp. M.
38. West Williams Tp. M.
39. McGillivray Tp. M.
40. Caradoc Tp. M.
41. Biddulph Tp. M.

42. Middlesex Co. M.
43. McGillivray Tp. M.
44. Biddulph Tp. M.
45. East Williams Tp. M.
46. Biddulph Tp. M.
47. West Williams Tp. M.
48. West Williams Tp. M.
49. McGillivray Tp. M.
50. Middlesex Co. M.
51. McGillivray Tp. M.
52. Near Lindsay. S.
53. Near Lindsay. S.
54. St. Thomas. S.
55. McGillivray Tp. M.
56. Hamilton Co. O., W. K. Moorehead.
57. Stephen Tp. M.
58. No record. S.
59. No record. S.
60. No record. S.
61. No record. Y. P. col.
62. Wolfe Island, R. St. Lawrence.
63. Biddulph Tp. M.
64. No record.
65. Miami Valley, O., C. J. B. Ratjen.
66. Miami Valley, O., C. J. B. Ratjen.
67. Miami Valley, O., C. J. B. Ratjen.
68. Miami Valley, O., C. J. B. Ratjen.
69. Lee Co. Va., Ky., Geol. Sur., Frankfort.

CASE O.

GORGETS OR TABLETS—ONE HOLE.

1. Western Ontario. S.
2. Western Ontario. Notched at one end. S.
3. Imly City, Mich., U. S. S.
4. Western Ontario. S.
5. Jarvis, Norfolk Co. S.
6. Western Ontario. S.
7. Western Ontario. S.
8. Tremont Park, Tidd's Island. C. A. See.

9. Tremont Park, Tidd's Island. C. A. See,
10. Near Cobourg. S.
11. Western Ontario. S.
12. Moore Tp. S.
13. Exeter. S.
14. Near Galt. S.
15. Western Ontario. S.
16. Guelph Tp.
17. York Tp. Y. P. col.
18. Western Ontario. S.
19. Western Ontario. S.
20. No record. Y. P. col.
21. Western Ontario. S.
22. Forest. S.
23. Western Ontario. S.
24. McGillivray Tp. M.
25. Biddulph Tp. M.
26. McGillivray Tp. M.
27. London City. M.
28. West Williams. M.
29. West Williams. M.
30. McGillivray Tp. M.
31. Biddulph Tp. M.
32. Caradoc Tp. M.
33. McGillivray Tp. M.
34. Bosanquet Tp. M.
35. West Williams Tp. M.
36. West Williams Tp. M.
37. Middlesex Co. M.
38. McGillivray Tp. M.
39. McGillivray Tp. M.
40. McGillivray Tp. M.
41. McGillivray Tp. M.
42. Biddulph Tp. M.
43. McGillivray Tp. M.
44. Caradoc Tp. M.
45. Blanshard Tp. M.
46. West Williams Tp. M.
47. McGillivray Tp. M.
48. Biddulph Tp. M.
49. Stephen Tp. M.

50. West Williams Tp. M.
51. Humberstone Tp. Wilson.
52. Weston, Ontario. S.
53. Weston, Ontario. S.
54. Weston, Ontario. S.
55. Tremont Park, Tidd's Island. C. A. See.
56. Tremont Park, Tidd's Island. C. A. See.
57. Weston, Ontario. S.
58. Wolfe Island.
59. Wolfe Island.
60. Victoria Co. Dickson col.
61. Wolfe Island.
62. McGillivray Tp. M.
63. No record.
64. Caradoc Tp. M.
65. Nottawasaga. Lougheed col.
66. Miami Valley. Dr. Craig, Lawrenceburg, Ind.

CASE P.

COPPER AND HEMATITE.

Hematites.

1. $2\frac{1}{4} \times 1\frac{1}{8}$. Hartford city, Mason Co., West Virginia. W. K. Moorehead.
2. $3\frac{1}{8} \times 2\frac{3}{8}$. Locust Creek, Linn Co., Mo. Dr. Rear, Toronto.
3. $2\frac{5}{8} \times 1\frac{5}{8}$. Brookfield, Mo. Dr. Rear.
4. Brookfield, Mo. Dr. Rear.
5. Linn Co., Mo. Dr. Rear.
6. Sinkers or plummet $1\frac{1}{4} \times \frac{5}{8}$ in. Near Columbus, O., C. D. Pettibone, Cincinnati, O.

Native Copper.

1. Chisel with socket for handles. Total length $4\frac{3}{8}$ in. Width at lip $1\frac{1}{4}$ in. Manitoulin Island. Mr. Yellowlees.
2. Axe $4\frac{1}{2}$ in. long, $2\frac{1}{4}$ in. wide at lip, and tapering to $1\frac{1}{2}$ in. at head. Greatest thickness about $\frac{3}{8}$ in. Brantford. S.
3. Axe or chisel 4 in. long, $2\frac{3}{4}$ in. wide at lip, and tapering to $\frac{5}{8}$ in. at head. Greatest thickness $\frac{5}{16}$ in. Tremont Park, Tidd's Island, Gananoque. C. A. See.
3. Axe or chisel, 6 in. long, $1\frac{1}{4}$ in. wide at lip, and tapering with convex sides to $\frac{3}{8}$ in. at head. Greatest thickness $\frac{1}{4}$ in. Beverly. J. Humphrey, Troy.
5. Spear-head $6\frac{1}{2}$ in. long, 1 in. at widest, and about $\frac{5}{16}$ in. thick in middle. Has tine for insertion in handle.

6. Spear-head, $7\frac{1}{8}$ in. long, and $1\frac{5}{8}$ in. at widest, with tine 2 in. long. Greatest thickness of blade $\frac{3}{16}$ in. Brantford. S.

7. Spear-head, or knife, 4 in. long. Widest part of blade $1\frac{1}{16}$ in. Greatest thickness $\frac{1}{8}$ in. Has a neck for attachment to handle. Neck $\frac{1}{2}$ in. long with a projection at each lower angle to aid in holding place in shaft. Rice Lake. S.

8. Spear-head with socket. Total length $5\frac{1}{4}$ in. Blade 3 in. long, $\frac{7}{8}$ in. at widest part, and $\frac{1}{8}$ in. thick. Near Toronto. S.

9. Spear-head or knife $5\frac{5}{8}$ in. long with tine. Greatest width of blade $\frac{7}{8}$ in. and about $\frac{1}{8}$ in. thick. No locality. S.

10. Fragment of knife, $2\frac{3}{4}$ in. long. No locality. S.

11. Knife with tine. Total length $3\frac{3}{4}$ in. Blade 2 in. long and 1 in. wide—thinned on one edge only. No locality. S.

12. Knife with tine. Total length $7\frac{3}{8}$ in. Blade $5\frac{1}{4}$ in. long. Greatest width $1\frac{3}{16}$ in., and although thinned on both edges, has only one made to cut. The cutting edge is convex as the result of the greater thinning, and the back is correspondingly hollow. The shape of this knife is suggestive of a European model. Beverly. James Rae.

13. Bracelet, 2 in. dia., and from $\frac{1}{8}$ in. to $\frac{3}{16}$ in. thick. Cross section a flattened oval, the longer dia. being in the plane of the circle. Rice Lake. S.

14. Bracelet and fragment; sheet copper coiled in tubular form and bent. No locality. Y. P. col.

15. Spear-head with tine. Total length $5\frac{5}{8}$ in. Blade 4 in. long, 1 in. at widest, $\frac{1}{8}$ in. thick, and smoothly finished to double edges. Tine round. London Tp. M.

16. Spear-head with small socket. Total length 9 in. Blade $7\frac{1}{2}$ in. long, $1\frac{5}{8}$ in. at widest, and $\frac{1}{8}$ in. thick. Burford. M.

17. Axe or chisel, $4\frac{5}{8}$ in. long. Thinned at both ends. One end roughly so, as if for insertion in a handle. Width of lip $1\frac{1}{2}$ in., of handle end $1\frac{1}{4}$ in. Greatest thickness $\frac{1}{4}$ in. This specimen contains a speck of native silver. Biddulph. M.

18. Axe or chisel, $5\frac{1}{4}$ in. long. Width at lip $1\frac{5}{8}$ in., tapering to $\frac{3}{8}$ in. at head. Greatest thickness $\frac{1}{4}$ in. Noncon Island, Lake Scugog. A. F. Chamberlain.

19. Bead $\frac{5}{8}$ in. long and $\frac{3}{8}$ in. dia. Has been bent to form a hole. London City. M.

20. Nine copper heads on piece of hide as attached originally. Tremont Park, Tidd's Island.

21. Pendant, triangular $2\frac{1}{4}$ in. long. Eye at wide end, which is 1 in. wide Wolfe Island.

22. Small bead, coiled, $\frac{5}{16}$ in. long, and $\frac{1}{8}$ in. dia. Caradoc. S.

23. Double-pointed awl or needle $4\frac{1}{8}$ in. long; $\frac{3}{16}$ in. dia. in middle.

24. Half of button, $1\frac{1}{2}$ in. dia. Mound, Ross. Co., Ohio. W. K. Moorehead.

25. Spear-head $6\frac{1}{8}$ in. long, tined, $\frac{7}{8}$ in. at the widest, and about $\frac{3}{16}$ in. thick. A strong rib forms the centre of the blade on each side. Dr. Beeming, Perth. (O. L.)

26. One hundred and four copper beads from $\frac{1}{8}$ in. to $\frac{1}{2}$ in. dia., and three pendant spikes about 3 in. long. Pike's Farm, Wolfe Island.

27. Spike or spear $12\frac{1}{2}$ in. long, $\frac{3}{4} \times \frac{5}{8}$ in. in middle, and tapering to flat points at each end. Sides square North bank of River Kaminstiquia at Fort William. Capt. J. S. Smith.

28. Axe or adze with socket. Total length $5\frac{1}{2}$ in. Width at lip $2\frac{1}{2}$, at end of socket $3\frac{3}{8}$ in. The edges are turned almost the whole length to form the socket, but 2 in. from the lip the material is flattened by "shouldering" to form a blade. This implement has the *appearance* of having been made in a swage. North bank of Kaminstiquia River at Fort William. Capt. J. S. Smith.

29. Axe $6\frac{1}{4}$ in. long, with beaver-skin in which it was wrapped. Pt. Mamainse, Lake Superior.

30. Spike; round; $8\frac{3}{4}$ in. long, $\frac{5}{8}$ in. wide. [Pointed at one end and chisel-edged at the other. Near London, Ont.

CASE Q.

MOSTLY OF UNKNOWN USE.

1. Fifteen brown stone beads from half an inch to three inches long. York P. col.

2. String of blood-stone beads. Y. P. col.

3. Five brown stone beads. Y. P. col.

4. Six blood-stone beads. Beverly Tp. Dwyer col.

5. Eight brown stone beads. Nottawasaga Tp. Lougheed col.

6. Five brown stone beads. Beverly Tp. Dwyer col.

7. One large brown stone bead. Beverly Tp. Dwyer col.

8. One large brown stone bead. Saskatoon, N.W.T. M.

9. Five blood-stone beads. Nottawasaga Tp. Lougheed col.

10. Circular, thin and flat brown slate, nearly 1 in. dia. with eight small holes round margin, one larger than the others as if used for suspension—one small hole in centre. Nottawasaga Tp. Lougheed col.

11. Small flat brown stone pendant (?) Nottawasaga Tp. Lougheed col.

12. Steatite bead, two fragments of steatite objects and one of limestone. Wolfe Island.

13. Hawaiian sling-stone, Helia, Oahu, Sandwich Isles. St. Mary's Institute, Dayton, O.

14. Carved head, perhaps a wolf's; limestone. Nottawasaga Tp. Lougheed col.

15. Finely carved human head $1\frac{1}{4}$ in. long. Beverly Tp. Dwyer col.

16. Bird's head and neck, broken from some large object. Nottawasaga Tp. Lougheed col.

17. $1\frac{3}{4}$ in. long, profile of beaver in blue slate. Nottawasaga Tp. Lougheed col.

18. Profile of quadruped in brown slate about $1\frac{1}{2}$ in. long. Nottawasaga Tp. Lougheed col.

19. Circular, conical (with flattened apex) striped slate $1\frac{3}{4}$ in. dia. and $1\frac{1}{8}$ in. high. Burford Village. S.

20. A hollowed conical stone $2\frac{1}{2}$ in. dia. and $1\frac{1}{4}$ in. deep outside measurement Outside smooth and shows a laminated structure. Bottom of hollow smoother than sides. Near Woodstock. S.

21. Light blue slate depressed cone; $2\frac{1}{4}$ in. dia. and $1\frac{1}{8}$ in. high. Not hollowed. "God's Country," Hamilton Co., O. W. K. Moorehead, Washington. D. C.

22. A light oval (pumice-like) stone $2\frac{3}{4}$ in. long, $2\frac{1}{4}$ in. wide and 1 in. thick in middle. A $\frac{5}{16}$ in. hole goes through the centre, sidewise. McGillivray Tp. M.

23. Slate implement $5\frac{1}{2}$ in. long and from $1\frac{1}{2}$ to 2 in. wide. Thin and shaped like a knife blade. One end fractured within $\frac{3}{4}$ in., of which a small oblique hole is bored. Withrow Avenue, Toronto.

24. Perhaps a "slick-stone"; slate. Caradoc Tp. M.

25. Perhaps a "slick-stone." No locality. S.

26. Pointed instrument of slate $5\frac{3}{4}$ in. long, roughly rounded and tapering to a narrow chisel point $\frac{1}{8}$ in. wide. Greatest dia. about $\frac{5}{8}$ in. Large end broken. Tremont Park, Tidd's Isl. C. A. See.

27. Fragment of pointed weapon $5\frac{7}{8}$ in. long, two sides rounded and smooth, two flat and rough. Large end broken. Dia. at large end 1 in. S.

28. Dark slate $6\frac{1}{4}$ in. long and $\frac{5}{8} \times \frac{3}{8}$ in. in middle. Three sides flat, one rounded. Tapers to blunt point at each end. Norfolk Co. S.

29. Striped slate $4\frac{3}{8}$ in. long, 1 in. wide and $\frac{3}{4}$ in. thick in middle. Three sides nearly flat and slightly convex lengthwise. Fourth side much rounded and bevelled towards each end. With flat side up has a square-ended canoe look. West Williams. M.

30. Light colored striped slate $5\frac{1}{4}$ in. long, much like No. 29 except that the bevelled side is not rounded transversely. Two holes $1\frac{7}{8}$ in. apart, and $1\frac{1}{4}$ in. from each end, have been bored from the straight to bevelled side. Dia. on upper side $\frac{5}{16}$ in. and on lower side barely $\frac{1}{8}$ in. East Williams Tp. S.

31. Dark striped slate, $4\frac{3}{4}$ in. long, similar in outline to Nos. 29 and 30, but deeper in proportion to length, and deeply hollowed from end to end. Two holes are bored through the hollowed and opposite sides, one $1\frac{1}{4}$ in. and the other $\frac{13}{16}$ from the end. Holes have been bored from both sides. Nissouri Tp. S.

32. Light brown double horned or winged stone, $2\frac{1}{2}$ in. long—with a groove surrounding the middle. Boone Co., Ky.

33, 34, 35, 36, 37 and 38 are similar in outline, although of different kinds of stone. They are from 2 in. to $3\frac{1}{4}$ in. long, flat, with two rounded sides terminating in points. No. 34 differs from the others in having two holes through it. Except No. 37, these all came from Noncon Isl., L. Scugog. A. F. Chamberlain.

No. 37 is from Tremont Park, Tidd's Island. C. A. See.

39. Small light blue slate pointed implement. Tremont Park, Tidd's Island. C. A. See.

40. Pointed slate implement with notched end as for a string. The point was broken off when being taken out of the mound. Tremont Park, Tidd's Island. C. A. See.

41. Small slate object like No. 52, case M. Newmarket. S.

42. Plummets-like stone, $2\frac{3}{4}$ in. long and $1\frac{3}{8}$ in. dia. Egg-shaped with small knot at one end. McGillivray Tp. M.

43. A black pebble grooved. This is a doubtful specimen, as the groove is apparently the result of weathering on a soft micaceous vein. Victoria Co. Dickson col.

44. Half of a notched stone. The specimen is oval and the notch is cut a little obliquely round the longer diameter. Miami Valley, O. Dr. Craig, Lawrenceburg. See No. 90.

45. Small brown pebble $1\frac{3}{8}$ in. long and $\frac{1}{2}$ in. wide with notch cut round the middle. Aurora, Ind. J. L. Kassebaum, Aurora, Ind.

46. Water-worn pebble 3 in. long and $2\frac{1}{4}$ in. wide, hollowed. The hollow has probably been deepened artificially, and the specimen may be called a paint-mill, or paint-cup. Miami Valley. Dr. Craig, Lawrenceburg, Ind.

47. Small limestone paint cup (?) Miami Valley. Dr. Collins, Lawrenceburg, Ind.

48. Limestone paint cup (?) West Williams Tp. M.

49. Slate $4\frac{1}{4}$ in. long and $\frac{5}{8}$ in. wide, $\frac{1}{8}$ in. thick, ends broken. Victoria, Brit. Columbia. Jas. Johnson, Vancouver.

50. Fragment of a slate implement. Victoria, Brit. Columbia. Jas. Johnson, Vancouver.

51. Cast of the Cincinnati Tablet. Robt. Clarke, Cincinnati, O.

52. Cast of the Clarke Tablet. Waverly, O. Robt. Clarke, Cincinnati, O.

54. Mottled slate $8\frac{1}{4}$ in. long, nearly $1\frac{1}{2}$ in. wide in middle, where it is also $\frac{5}{8}$ in. thick. At each end it is $\frac{1}{2}$ in. thick. Between the middle and ends it is reduced in beautifully regular curves on one side to $\frac{3}{8}$ in. The same side is smoothly rounded transversely, making a sharp angle with the lower side, which is very smooth and perfectly straight. Cobourg. S.

55. Brown stone bead. Nottawasaga. Herbert Conner.

56. Three brown stone beads. Nottawasaga. Lougheed col.

78. Round and tapering fragment of stone implement $5\frac{5}{8}$ in. long. Greatest dia. $1\frac{1}{8}$ in. McGillivray Tp. M.

79. Black slate $4\frac{3}{8}$ in. long, $\frac{5}{8}$ in. wide, $\frac{3}{8}$ in. thick, three sides flat, one rounded both ways. Ends thin. Caradoc Tp. M.

80. Striped slate $5\frac{5}{8}$ in. long and $9/16$ thick. Pointed; one side flat, others rounded. $2\frac{3}{4}$ in. from point is a portion $1\frac{3}{4}$ in. long, $1\frac{1}{2}$ in. wide and $\frac{3}{4}$ in. thick, forming a flattened bulb. Near Hamilton, Butler Co., O. W. K. Moorehead.

81. Brown veined slate 6 in. long, $1\frac{5}{8}$ in. wide in middle, whence it decreases by curved sides to $\frac{5}{8}$ in. wide at each end. About $\frac{3}{8}$ in. thick. One side flat, on which $1\frac{1}{2}$ in. apart and equi-distant from the centre, lengthwise, are the beginnings of two holes. Shelby Co., O. Prof. Moritz Fischer, Frankfort, Ky.

82. $5\frac{1}{8}$ in. long, similar to No. 81. (No holes). Mason Co., W. Virginia. W. K. Moorehead.

83. Gray slate, $4\frac{7}{8}$ in. long. Dia. at widest 1 in. and at thickest $\frac{3}{4}$ in. Resembles No. 80, but is pointed at both ends and the bulb is more elongated. Point of longer end broken. Near Hartford, Mason Co., W. Virginia. W. K. Moorehead.

84. Dark veined slate, $5\frac{3}{4}$ in. long, 1 in. wide and $\frac{7}{8}$ in. thick in middle. Three sides flat, one rounded and bevelled to each end. A shallow groove goes round two adjoining sides. Miami Valley. C. J. B. Ratjen, Lawrenceburg, Ind.

85. Brown slate $3\frac{5}{8}$ in. long. Greatest dia. $1\frac{3}{4}$ in. $2\frac{3}{8}$ in. from widest part to one end, may be regarded as the body of some animal. The other end is the unfinished head and neck. Miami Valley. C. J. B. Ratjen, Lawrenceburg, Ind.

86. Granite, 3 in. long. Much like No. 31. One end broken. The one hole remaining has been bored from the hollowed side. Miami Valley. C. J. B. Ratjen, Lawrenceburg, Ind.

87. Sandstone, $2\frac{3}{4}$ in. long, $2\frac{1}{8}$ in. wide and $\frac{1}{4}$ in. thick in middle. Oval. Edge has twenty-two deep sharply angular notches. Hole through smaller end. Miami Valley. C. J. B. Ratjen, Lawrenceburg, Ind.

88. Quartzite, 2 in. long, $1\frac{1}{2}$ in. dia. Plummert-like. No knob on smaller end. Miami Valley. C. J. B. Ratjen, Lawrenceburg, Ind.

89. Conglomerate, $2\frac{1}{8}$ in. long, $1\frac{1}{8}$ in. dia. Plummert-like. Grooved round small end to form knob. Miami Valley. C. J. B. Ratjen, Lawrenceburg, Ind.

90. Sandstone, $2\frac{1}{4}$ in. long, $1\frac{3}{4}$ in. wide and $1\frac{1}{4}$ in. thick. Flat on one side. The rest of the surface rounded. A groove along the rounded side in the direction of longer axis. Miami Valley. C. J. B. Ratjen, Lawrenceburg, Ind.

91. Close-grained, mottled, argillite. $6\frac{1}{4}$ in. long, 1 in. wide and $\frac{5}{8}$ in. thick at largest. Tapers on two sides to a chisel point at one end, and on three sides to a pick-point at the other. Miami Valley. C. J. B. Ratjen, Lawrenceburg, Ind.

92. Slate, $5\frac{3}{4}$ in. long, $1\frac{1}{2}$ in. wide at one end and $\frac{1}{2}$ in. wide at the other. About $\frac{1}{4}$ in. thick. Edges rounded. Hole bored 1 in. from small end. Large end bevelled from both sides to an edge. Miami Valley. C. J. B. Ratjen, Lawrenceburg, Ind.

With the exception of the beads, it is impossible in the present state of knowledge to give suitable names with certainty to the objects in this case. Many of them also are indescribable for want of space.

CASE R.

CLAY PIPES

1. Nottawasaga. Loughheed col.
2. Nottawasaga. Loughheed col.
3. Highland Creek. Y. P. col.
4. Lake Medad.
5. Nottawasaga. Loughheed col.
6. Eramosa.
7. Beverly. Dwyer col.
8. Nottawasaga. Loughheed col.
9. Nottawasaga. Loughheed col.
10. No record. Y. P. col.
11. Beverly. Dwyer col.
12. No report. Y. P. col.
13. No report. Y. P. col.

14. Beverly. Dwyer.
15. Nottawasaga. Loughheed col.
16. Nottawasaga. Loughheed col.
17. No record. Y. P. col.
18. Forest. S.
19. Holland Landing. S.
20. Nottawasaga. Loughheed col.
21. Vaughan.
22. No record. Y. P. col.
23. Nottawasaga. Loughheed col.
24. Ste. Marie. Simcoe Co.
25. Beverly. Dwyer col.
26. Beverly. Dwyer col.
27. Nottawasaga. Loughheed. col. (2)
28. Nottawasaga. Loughheed col. (2)
29. Nottawasaga. Loughheed col.
30. Nottawasaga. Loughheed col.
31. Nottawasaga. Loughheed col.
32. Orillia. L. Hayden, Toronto.
33. York Tp. B. Jackes, Toronto.
34. Beverly. Jas. Rae.
35. Beverly. Jas. Rae.
36. No record.
37. York Tp. B. Jackes, Toronto.
38. Near Lake Simcoe. S.
39. Nottawasaga. Loughheed col.
40. Nottawasaga. Loughheed col.
41. No record. Y. P. col.
42. Nottawasaga. Loughheed col.
43. No record. Y. P. col.
44. No record. Y. P. col.
45. Nottawasaga. Loughheed.
46. No record. Y. P. col.
47. Onentisati. Simcoe Co.
48. Nottawasaga. Loughheed col.
49. Orillia. Basil R. Rowe.
50. No record. Y. P. col.
51. No record. Y. P. col.
52. No record. Y. P. col.
53. York Tp. B. Jackes.
54. Nottawasaga. Loughheed col.

55. Eglinton, York Tp. Y. P. col.
56. Eglinton, York Tp. Y. P. col.
57. Eglinton, York Tp. B. Jackes.
58. Nottawasaga. Loughheed col.
59. Onentisati. Simcoe Co.
60. No record. Y. P. col.
61. Ste. Marie. Simcoe Co.
62. York Tp. B. Jackes.
63. McGillivray Tp. M.
64. Nottawasaga. Loughheed col. (3)
65. Lake Medad. C. Macpherson.
66. Onentisati. Simcoe Co.
67. Beverly. Dwyer col.
68. Penetanguishene. F. A. Benson.
69. York Tp. B. Jackes.
70. No record. Y. P. col.
71. Nottawasaga. Loughheed col. (2)
72. Ste. Marie. Simcoe Co.
73. Victoria Co. Dickson col.
74. Victoria Co. Dickson col.
75. Victoria Co. Dickson col.
76. No record. Y. P. col.
77. No record. Y. P. col.
78. No record. Y. P. col.
144. Lambton Mills, York Tp.

CASE S.

CLAY PIPES.

79. York Tp. J. Kirkwood.
80. Nottawasaga. Loughheed col. (Owl's head from lip of bowl.)
81. Nottawasaga. Loughheed col. (Human face, open mouth.)
82. Nottawasaga. Loughheed col. (Human face.)
83. Nottawasaga. Loughheed col. (Human face.)
84. Nottawasaga. Loughheed col. (Human face.)
85. Nottawasaga. Loughheed col. (Human face, elongated.)
86. Nottawasaga. Loughheed col. (Human face, elongated.)
- 87.
88. Nottawasaga. Loughheed col. (Human face.)

89. Onentisati. Simcoe Co. (Eagle's head on lip.)
90. Beverly. Jas. Rae. (Snake's head.)
91. Nottawasaga. Loughheed col. (Owl's head.)
92. Nottawasaga. Loughheed col. (Two human faces from bowl.)
93. Nottawasaga. Loughheed col. (Spiral coil round bowl.)
94. Nottawasaga. Loughheed col.
95. Nottawasaga. Loughheed col. (2 birds' heads from pipes.)
96. Near L Simcoe. S. (Double human face, forward and backward.)
97. Nottawasaga. Loughheed col. (Human face.)
98. Nottawasaga. Loughheed col. (Square mouth.)
99. Onentisati. Simcoe Co. (Square mouth.)
100. Ste. Marie. Simcoe Co. (Square mouth.)
101. Nottawasaga. Loughheed col. (Square mouth.)
102. Nottawasaga. Loughheed col. (Square mouth.)
103. Nottawasaga. Loughheed col. (Square mouth.)
104. Nottawasaga. Loughheed. col. (Square mouth.)
105. Lake Medad. C. Macpherson. (Square mouth.)
106. Victoria Co. Dickson col.
107. Victoria Co. Dickson col.
108. Victoria Co. Dickson col.
109. Ancaster. J. E. McCrimmon. (Human form, head broken.)
110. Nottawasaga. Loughheed col. (Fox's head ?)
111. York Tp. George Miller.
112. York Tp. George Miller.
113. York Tp. George Miller.
114. Nottawasaga. David Melville.
115. Nottawasaga. Ed. Coyle. (Human face.)
116. " " "
117. Nottawasaga. Thos. White. (Fragment diagonally marked on upper edge.)
118. Nottawasaga. David Melville. (Oval curve.)
119. Nottawasaga. David Melville. (Stem of pipe like 118.)
120. Nottawasaga. David Melville.
121. Nottawasaga. David Melville. (Square mouth.)
122. Nottawasaga. David Melville. (Square mouth.)
123. Nottawasaga. David Melville.
124. Nottawasaga. Loughheed col. (Human face elongated.)
125. Nottawasaga. David Melville.
126. Nottawasaga. David Melville.
127. Nottawasaga. Mr. Doner.
128. Nottawasaga. Herbert Conner. (Square mouth.)
129. Nottawasaga. Dugald Currie.
130. Nottawasaga. Thos. White.
131. Nottawasaga. Thos. White.

132. Nottawasaga. Thos. White.
133. Nottawasaga. Lougheed col. (Human figure, broken.)
134. " " " "
135. Lake Medad. Mr. Lillycrop. (Human face from pipe.)
136. Nottawasaga. David Melville. (Human face from pipe)
137. Nottawasaga. Herbert Conner.
138. Nottawasaga. Lougheed col.
139. Victoria Co. Dickson col.
140. Nottawasaga. Lougheed col. (Dog's head.)
141. Lake Medad. Luke Mullock.
142. Nottawasaga. Herbert Conner.
143. Nottawasaga. Herbert Conner.
144. (See case R.)
145. Lake Medad. Luke Mullock.
146. Nottawasaga. Thos. White. (Human face.)
147. Humberstone Tp. Cyrenius Bearss. (Small.)
148. Humberstone Tp. Cyrenius Bearss.
149. Humberstone Tp. Cyrenius Bearss.
150. Humberstone Tp. Isaac Bearss.
151. Dumfries Tp. Jas. G. Caven.
152. York Tp. Geo. Miller.
153. Amberly Tp. Wm. Welsh. (Square mouth, fragment.)
154. Tremont Park, Tidd's Islands. C. A. See. (Stem.)
155. Eglinton, York Tp. W. G. Long. (Long stem.)
156. Nottawasaga. Snake head. Angus Butie.

This case contains also a large number of stems from various localities.

CASE T.

Discs.

1 to 6. Six discoidal stones (varying from $2\frac{1}{2}$ to $3\frac{1}{2}$ in. in diameter) said to have been used in playing a game by rolling them along the ground, opponents aiming missiles at them when in motion, and bets being made as to where they would stop, or which side would lie uppermost. Dr. Craig, Lawrenceburg, Ind.

7 to 12. Six small discoidal stones. The smallest $\frac{5}{8}$ of an in. in diameter and the largest $2\frac{1}{2}$. No. 9 is marked by four lines cut on both sides, crossing each other near the centre and extending to the margin. Geo. Lougheed, Nottawasaga.

12 $\frac{1}{2}$ and 13. Two stones apparently in preparation for discs. Originally they were water-worn, but there are evidences of manipulation by pecking on the flattened sides. Dr. Craig, Lawrenceburg, Ind.

14. Rude or unfinished disc. Both sides hollowed as if to aid in grasping. Edges of stone not circular. Natural Hist. Soc. Brookville, Ind.

15. Discoidal stone, 4 in. in dia., well hollowed on both sides. S.
16. Discoidal stone unfinished; $3\frac{3}{4}$ in. dia., sides hollowed, but periphery not made quite circular. From New York State. Moses Barrowman, Buffalo.
17. Small discoidal stone $1\frac{3}{4}$ in. dia., hollowed on both sides. From Ohio, U.S. Nat. Hist. Soc. Cincinnati, O.
18. Discoidal stone $2\frac{1}{4}$ in. dia., hollowed on sides. S.
19. Discoidal stone, $2\frac{1}{4}$ in. dia., flat sides. "Used in a Hawaiian game—the object being to see who could roll it furthest on a smooth path." The specimen is interesting as being so like many found in Canada and the United States. Hawaii, Sandwich Islands. Rev. Bro. Joseph, St. Mary's Academy, Dayton, O.
20. Discoidal stone $2\frac{1}{2}$ in. dia., sides flat. Ste. Marie, Simcoe Co., Ont.
- 21 to 25. Discoidal stones, $1\frac{1}{4}$ in. to $1\frac{1}{2}$ in. dia., sides flat, 21 and 25 perforated in the centre. From York Tp. W. G. Long, Lansing, York Tp.
26. Discoidal stone, $1\frac{1}{2}$ in. dia., sides convex. From West Virginia, U. S. Nat. Hist. Soc. Brookville, Ind.
27. Discoidal stone, $1\frac{1}{2}$ in. dia., sides flat. Perforated. From Goose Lake, near L. Simcoe. S.
28. Discoidal stone, $2\frac{1}{2}$ in. in dia., both sides concave. Miama Valley, near Lawrenceburg. C. J. B. Ratjen, Lawrenceburg, Ind.
29. Discoidal stones, $2\frac{1}{6}$ in. in dia., both sides deeply concave. Same locality. C. J. B. Ratjen, Lawrenceburg, Ind.
30. Discoidal stone, 2 in. in dia. Edge much rounded, both sides hollow. Same locality. C. J. B. Ratjen, Lawrenceburg, Ind.
31. Discoidal stone, 2 in. in dia., sides hollow. Same locality. C. J. B. Ratjen, Lawrenceburg, Ind.
32. Discoidal stone, $1\frac{5}{8}$ in. in dia. This specimen differs from all the other hollow sided ones on account of the cavities not merging imperceptibly into the rounded edge. The rounding of the edge is carried $\frac{3}{8}$ of an inch over the side and nearly an eighth of an in. deep, so as to form a sharply defined collar, the central portion being but slightly hollowed. Same locality. C. J. B. Ratjen, Lawrenceburg, Ind.
33. Discoidal stone. $1\frac{1}{2}$ in. in dia. $\frac{3}{8}$ in. thick. So deeply hollowed on both sides that the thickness in the middle is barely $\frac{1}{8}$ of an inch. C. J. B. Ratjen, Lawrenceburg, Ind.
34. Discoidal stone. $1\frac{7}{8}$ in. in dia. $\frac{7}{8}$ in. thick. Flat on both sides. Nottawasaga.
35. Disc; clay. $1\frac{1}{8}$ in. in dia. $\frac{3}{8}$ in. thick. Eglinton, York township. Loug. collection.
- Nos. 1 to 4, and $12\frac{1}{2}$ to 16 are classified by some as hammers, a few of these may have been used thus, but others show no signs of such application. Nos. 1, 3, $12\frac{1}{2}$, 13 and 16 retain their original ovate form as viewed from the flattened or hollowed sides.
- 36 to 40. Discoidal stones from 1 in. to 3 in. dia. Nottawasaga. David Melville.
- 41 to 44. Discoidal stones from 1 in. to $1\frac{1}{2}$ in. dia. Nottawasaga. William Melville.

RUBBING STONES.

1 and 2. Rubbing stones, roughly circular, flat and smooth on both sides, 5 in. dia. Orillia. Basil Rowe.

PESTLES.

3 to 6. Rudely formed pestles from 5 to 7 in. long; cross section oval West Middlesex. M.

7. Pestle, 7 in. long. McGillivray Tp. M.

8. Pestle, 13 in. long, and $2\frac{1}{2}$ in. dia. in middle. Has a small hole bored in one side near the middle. Simcoe. S.

9. Pestle, 10 in. long and $2\frac{1}{2}$ in. dia. Simcoe. S.

10. Pestle, 8 in. long, and 2 in. dia. W. Middlesex. M.

11. Pestle, 12 in. long and 2 in. dia. McGillivray Tp. M.

12. Pestle, $8\frac{1}{2}$ in. long, $2\frac{3}{4}$ in. dia. No locality. Y. P. col. (This may not be more than a water-worn stone.)

13. Pestle, $4\frac{3}{4}$ in. long and $1\frac{1}{2}$ in. dia. Ft. Gratiot, Mich.

14. Pestle, $5\frac{1}{4}$ in. long, conical; diameter of base $2\frac{1}{2} \times 3\frac{1}{4}$ in.; of head, $1\frac{1}{4}$ in.; it is worn off on the face or base end at an angle. No locality. Y. P. col.

15. Pestle, $4\frac{1}{2}$ in. long and $2\frac{1}{2}$ in. dia.; is a little flared at base; upper end or head rounded off. Kentucky. Geological Survey of Kentucky, Prof. Moritz Fischer.

16. Pestle, $3\frac{1}{2}$ in. long, conical; diameter of base $2\frac{1}{2}$ in., tapers to 1 in. Shelby Co., Kentucky. Nat. Hist. Soc., Brookville, Indiana.

17. Pestle, $5\frac{1}{4}$ in. long, conical; dia. of base 3 in.; head rounded. Linn Co., Missouri. Dr. Rear.

18. Pestle, $6\frac{1}{2}$ in. long, base broken. Humberstone Tp. Cyrenius Bearss.

CASE U.

GROOVED STONE AXES AND HAMMERS.

1. Axe, 8 in. by $4\frac{3}{4}$ in., grooved all round. Lake Superior. Y. P. col.

2. Axe, $6\frac{3}{4}$ in. by 4 in. one edge ungrooved. Bourbon Co., Ky. Kentucky Geological Survey, Frankfort.

3. Axe, $7\frac{1}{4}$ in. by 4 in., one edge ungrooved. Miami Valley, Ind. C. J. B. Ratjen, Lawrenceburg, Ind.

4. Axe, 6 in. by 3 in., Aurora, Ind., one edge ungrooved. J. L. Kassebaum, Aurora, Ind.

5. Axe, $7\frac{1}{2}$ in. by $2\frac{1}{2}$ in., one edge ungrooved. Miami Valley. C. J. B. Ratjen, Lawrenceburg.

6. Axe, 5 in. by 4 in., one edge ungrooved. No locality. Y. P. col.

7. $5\frac{1}{4}$ in. by 3 in., one edge ungrooved and hollowed lengthwise. Linn Co., Missouri.

8. Axe, 5 in. by 3 in., one edge ungrooved. Shelby Co., Ind. Nat. Hist. Soc., Brookville, Ind.

9. Axe, 5 in. by $3\frac{1}{2}$ in., one edge ungrooved. Franklin Co., Ind. Nat. Hist. Soc., Brookville, Ind.

10. 5 in. by $2\frac{3}{4}$ in., one edge ungrooved and hollowed lengthwise. Miami Valley. Dr. Craig, Lawrenceburg, Ind.

11. Axe, $4\frac{1}{4}$ in. by 3 in., one edge ungrooved. Garrard Co., Ky. Nat. Hist. Soc., Brookville, Ind.

12. Axe, 7 in. by $3\frac{1}{2}$, grooved all round. Miami Valley, Ind. Dr. Craig, Lawrenceburg.

13. Axe, 7 in. by 3 in., grooved all round. East Williams Tp. M.

14. Axe, $5\frac{1}{2}$ in. by $2\frac{3}{4}$ in., grooved all round. McGillivray Tp. M.

15. Axe, $5\frac{3}{4}$ in. by 3 in., grooved all round. West Williams Tp. M.

16. Axe, 6 in. by $4\frac{1}{4}$, grooved all round. Near Weston Village. Dr. Richardson.

17. Axe, $7\frac{1}{2}$ in. by $3\frac{1}{4}$, grooved all round. Arkona. M.

18. Axe, 6 in. by $3\frac{1}{2}$ in., grooved all round. W. Middlesex. M.

19. Axe, $5\frac{1}{4}$ in. by $4\frac{1}{2}$ in., grooved all round. Linn Co., Mo.

20. Axe, $5\frac{1}{2}$ in. by $2\frac{1}{4}$ in., grooved all round. Miami Valley. Dr. Craig, Lawrenceburg.

21. Axe, 5 in. by $2\frac{3}{4}$ in., grooved all round. Miami Valley. Dr. Craig, Lawrenceburg.

22. Axe. 4 in. by 3 in., grooved all round. J. C. Kassebaum. Aurora, Ind.

23. Axe, $3\frac{3}{4}$ in. by $2\frac{3}{4}$ in., grooved all round. Shelby Co., Ky. Nat. Hist. Soc., Brookville, Ind.

24. Axe, 4 in. by $2\frac{1}{4}$ in., grooved all round. McGillivray Tp. M.

25. Axe, $3\frac{1}{2}$ in. by $2\frac{1}{2}$ in., grooved all round. Brookfield, Mo.

26. Axe, 3 in. by 2 in., grooved all round. East Williams Tp. M.

27. Axe, $4\frac{1}{2}$ in. by 3 in., grooved all round. McGillivray Tp. M.

28. Axe, $4\frac{3}{4}$ in. by $2\frac{3}{4}$ in., grooved all round. No locality. Y. P. col.

29. Axe, $5\frac{1}{4}$ in. by $3\frac{1}{4}$ in., grooved all round. No locality. Y. P. col.

30. Axe, $6\frac{1}{4}$ in. by $3\frac{1}{2}$ in., chiefly grooved on the two edges. McGillivray. M.

31. Axe, $6\frac{1}{4}$ in. by $3\frac{1}{4}$ in., groove shallow all round. No locality. Y. P. col.

32. Axe, 6 in. by $3\frac{1}{2}$ in., grooved chiefly on edges. No record.

33. Axe, $3\frac{1}{2}$ in. by $2\frac{1}{2}$ in., one edge ungrooved. Shelby Co., Ky. Brookville Nat. Hist. Soc., Ind.

34. Axe, $3\frac{3}{4}$ in. by $1\frac{3}{4}$ in., one edge ungrooved. Brookfield, Mo.

35. Axe, 3 in. by 2 in., thin and slightly grooved. Linn Co., Mo.

36. Axe, $4\frac{1}{4}$ in. by $2\frac{1}{4}$ in., very slightly grooved, and mainly on the edges. Shelby Co., Ky. Brookville Nat. Hist. Soc. Ind.

37. Axe, $5\frac{1}{2}$ in. by $2\frac{3}{4}$ in., grooved mostly on edges. No record.

38. Axe, 6 in. by 3 in., grooved all round. No record.

39. Axe, $7\frac{1}{2}$ in. by $4\frac{1}{4}$ in., grooved all round with stony projections formed on edges above and below groove. No record.

40. Axe, $6\frac{3}{4}$ in. by $4\frac{1}{2}$ in., similar to No. 39. No record.

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41. Hammer, $7\frac{1}{4}$ in. by $5\frac{1}{2}$ in. Lake Superior.
42. Hammer, $6\frac{1}{2}$ in. by $3\frac{1}{2}$ in. Is evidently only a water-worn stone whose shape has suggested use, and has been slightly hollowed in two sides either for attachment to a handle, or to aid in holding directly in the hand.
43. Hammer, 6 in. by 4 in. 45 miles north-west of Brandon, Man. Is deeply grooved and well shaped. M.
44. Hammer, 5 in. by $4\frac{1}{2}$ in., cylindrical and grooved near the middle. Point Edward. M.
45. Hammer, $6\frac{3}{4}$ in. by $4\frac{1}{2}$ in., grooved about one-third from smaller end. Leamington, Essex Co.
46. Hammer, $5\frac{3}{4}$ in. by $3\frac{3}{4}$ in. Has originally been a fine implement—is now broken on one side of each end. Thunder Bay.
47. Hammer, 3 in. by 3 in., grooved near the middle. Thunder Bay.
48. $5\frac{1}{2}$ in. by 5 in. Is a flat water-worn stone. Has originally been somewhat ovate and has now two deeply cut notches on the edges $1\frac{3}{4}$ in. from the smaller end. Point Edward. M.
49. 8 in. by $5\frac{1}{2}$ in. Corresponds in character to No. 48. Biddulph. M. Neither of these bears any marks to indicate use as a hammer. Perhaps they were used as anchors for the frail birch-bark canoes close to shore. The fact, however, that the latter was found inland, does not add force to this conjecture, unless the same use was made of it for river purposes.
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CASE V.

POTTERY.

This case contains a large number of pottery fragments, illustrative of markings or patterns. The specimens are from various parts of this Province and United States. The principal contributors are: Jas. Dickson, P. L. S., Fenelon Falls; Jas. Dwyer, Beverly; T. H. Hulbert, Duluth; Cyrenius Bearss, Humberstone; John McPherson, Toronto; Dr. T. W. Beeman, Perth; F. A. Benson, Port Hope; William Welsh, Amberley; Society of Natural History, Cincinnati; Prof. J. L. Deming, Technological Institute, Boston; Thos. White, Nottawasaga; Jas. Rae, Beverly; W. J. Long, Lansing; Albert Loughheed, Nottawasaga; G. Laidlaw, of "The Fort"; David Boyle, sr., Richmond Hill, J. L. Kassebaum, Aurora, Indiana; and C. Bell, Toronto.

The finest specimen is that presented by Mr. John McPherson. It consists of several pieces now cemented, and shows the outline and proportions of what must have been a very handsome vessel about 9 in. high, 7 in. dia. at the widest part, and 5 in. in dia. at the mouth. It was found in Mr. McPherson's island, Mindemoya, in a lake of the same name in Manitoulin Island.

CASE W.

CLEARVILLE SPECIMENS.

This case contains specimens of horn, bone, shell, clay and stone from the site of a fortified village at Clearville, Kent Co., Ont.

18 deer-horn prongs, showing rude human workmanship,

30 bone awls or needles, from $1\frac{1}{2}$ in. to 7 in. long.

2 dorsal spines of a large fish. These are about $1\frac{1}{2}$ in. long, triangular in cross section and very sharp.

1 beaver's tooth.

2 muskrats' teeth.

10 unio valves, some of these have been used as scrapers, and one evidently by a left-handed person.

1 walnut.

9 clay pipe-stems.

6 pipe heads, but all imperfect. One is very rude in form, and one is remarkable for its fine finish and design.

3 pieces of burnt clay, showing manipulation.

7 fragments of large and coarse clay vessels.

19 fragments of smaller and finer vessels.

8 rudely made stone chisels.

8 roughly chipped flints.

7 stones, smoothly rubbed.

1 piece of red jasper.

1 sinker—so called.

1 semi-circular, grooved stone.

CASE X.

DRILLS.

1. Drill, 2 in. long, broken, T head. Curtis Farm, Linn Co., Mo. Dr. Rear. Toronto.

2. Drill, 2 in. long, unsymmetrical, rounded head. Bourbon Co., Ky. Dr. Collins, Lawrenceburg, Ind.

3. Drill, $1\frac{1}{8}$ in. long, T head. Bourbon Co., Ky. Dr. Collins, Lawrenceburg, Ind.

4. Drill, $2\frac{1}{4}$ in. long, notched head, seems to have been an arrow modified for drilling purposes. Middlesex Co., Ont. M.

5. Drill, $2\frac{1}{4}$ in. long, broken, head merely a little broader than body and thinner at end. Curtis Farm, Linn Co., Mo. Dr. Rear, Toronto.

6. Drill, $1\frac{1}{4}$ in. long, rude, head smaller than body.

7. Drill 1 in. long, half of head broken off crosswise.
8. Drill $1\frac{3}{4}$ in. long, rounded head.
9. Drill $1\frac{3}{8}$ in. long, notched head. Outline like arrow, but is flat on one side and round on the other, body comparatively thick, and curved considerably at the point. Nos. 6, 7, 8, and 9, from Pike's Farm, Wolfe Isl.
10. Drill, $3\frac{1}{8}$ in. long, T head, body rhomboidal, and twisted. McGillivray Township, Middlesex, Ont. M.
11. Drill, $2\frac{7}{8}$ in. long, head broken.
12. Drill $2\frac{1}{4}$ in. long, head a slight expansion of body, and thinned.
13. Drill 2 in. long, point broken, sharply cut T head.
14. Drill $1\frac{5}{8}$ in. long; head like a T double barred, the upper portion being the lesser in size. Nos. 11, 12, 13 and 14, from Townships of East and West Williams. Middlesex Co, M.
15. Drill, $3\frac{3}{8}$ in. long; no marked head, one side of body comparatively flat, curved near the point; greatest width (at head end) $\frac{5}{8}$ in. Pike's Farm, Wolfe Island.
16. Drill, 1 in. long, obscure T head, point broken.
17. Drill, $1\frac{3}{4}$ in. long, obscure T head, body curved diagonally, the material is dark blue for half the distance at the head end, the other half being white.
18. Drill, $1\frac{1}{4}$ in. long, head broken.
19. Drill, $1\frac{1}{4}$ in. long, head wedged.
- Both seem as if made for being inserted and fastened in a cleft handle.
20. Drill, $\frac{7}{8}$ in. long, T head, sharply pointed. Nos. 16, 17, 18, 19, and 20, from Miami Valley, Ind. Dr. Craig, Lawrenceburg.
21. Drill, $1\frac{3}{4}$ in. long, 1 in. wide in middle; drilling portion only $\frac{3}{8}$ in. long, and $\frac{1}{4}$ in. wide at point; notched neck for fastening to handle $\frac{5}{8}$ in. long.
22. Drill, $1\frac{3}{8}$ in. long, broken; unsymmetrical T head.
23. Drill, $\frac{3}{4}$ in. long, broken; good T head.
24. Drill, $1\frac{1}{8}$ in. long, T projection, $\frac{7}{8}$ wide near middle; notched neck for handle.
25. Drill, $2\frac{1}{4}$ in. long, $\frac{3}{4}$ in. wide, obscure neck; roughly chipped; may have been a badly made arrow-tip.
26. Drill, $2\frac{7}{8}$ in. long, point broken, $\frac{1}{4}$ in. wide at break; T head.
27. Drill, $2\frac{3}{8}$ in. long, neck broken, $\frac{5}{8}$ in. at widest part; might have been an arrow, but is worn smooth on sides and edges.
28. Drill, 3 in. long, notched neck; slightly curved; flat on one side.
29. Drill, $2\frac{3}{4}$ in. long, imperfect, oblique T head.
30. Drill, $2\frac{7}{8}$ in. long, club-shaped head; tip broken.
31. Drill, $2\frac{3}{8}$ in. long, $\frac{1}{2}$ in. wide; neck broken; white flint.
32. Drill, $1\frac{1}{2}$ in. long, $\frac{3}{8}$ in. wide; head broken.
- (21 to 32 from collection presented by Jas. Dickson, Esq., Fenelon Falls.)
33. Drill, $1\frac{5}{8}$ in. long, $\frac{1}{2}$ in. wide; thick, and rudely chipped: notched with T head.
34. Drill, $1\frac{5}{8}$ in. long, $\frac{3}{8}$ in. wide; slightly curved and rudely made; head appears to have been broken.

35. Drill, $1\frac{1}{4}$ in. long ; otherwise like No. 34.

36. Drill, $2\frac{3}{8}$ in. long, $\frac{3}{8}$ in. wide ; point broken ; club-shaped head.

37. Drill, 2 in. long, flat on one side and slightly curved ; obscure neck ; rude.

38. Drill, $3\frac{7}{8}$ in. long, $1\frac{1}{4}$ in. wide in front of neck ; for $\frac{2}{3}$ of length from head is as flat as an arrow, but takes rhomboidal form near the point, decreasing to $\frac{1}{4}$ in. in width at the same distance from tip.

(33 to 38 from counties of Wentworth and Waterloo.)

39 to 76. These were procured from Mr. C. J. B. Ratjen, of Lawrenceburg, Indiana, and were all collected in the Miami Valley. They vary from 1 in. to $4\frac{1}{2}$ in. long, and from $\frac{1}{8}$ to $1\frac{1}{8}$ in. in width. Some are T headed, others club-headed, and many are simply thinned for insertion in a handle. There is no notched specimen among them.

72 and 73, both imperfect, are serrated on the edges, which are now worn as if the specimens had been used as saws. 42, 43, and 44, may have been arrow-tips, but all the others were no doubt drills.

CASE Y.

SLATE WEAPONS.

These objects are shaped like arrow and spear heads. Some writers regard such specimens as knives. They were probably rather of an ornamental character and intended for purposes of display in connection with feasts, dances, and other celebrations. They are not very common in this country.

1 to 3. Western Ontario. S.

4. Broad in proportion to length, being 5 in. long, (including the neck, $1\frac{1}{2}$ in.,) and $2\frac{3}{4}$ in. wide at the base ; it is squarely shouldered to form the neck. Wolfe Island.

5. $4\frac{1}{4}$ in. long, 2 in. wide, and very thin ; slightly barbed ; the neck is of a kind peculiar to this class of object, being carefully notched or serrated on each edge as if to assist in binding to a shaft. Another peculiarity is that the neck although $\frac{5}{8}$ in. long, measures $1\frac{1}{8}$ in. behind the barbs and tapers to $\frac{5}{8}$ in. at the base. This shape would seem to add to the difficulty of fastening. S.

6. $2\frac{3}{4}$ in. long, with neck similar to No. 5. Caradoc Tp. S.

7. $3\frac{1}{4}$ in. long, square-shouldered, neck which is tapering like Nos. 5 and 6, but not serrated. S.

8. $2\frac{3}{4}$ in. long, neck broken. S.

9. $2\frac{3}{4}$ in. long, deeply barbed, tapering and serrated neck.

10. $3\frac{3}{8}$ in. long, very perfect, square-shouldered, tapering and round edged neck. Nottawasaga. Loughheed col.

11. $3\frac{3}{4}$ in. long, single barbed, neck tapering and round edged. Withrow Avenue, Toronto.

12. $3\frac{3}{8}$ in. long, slightly barbed, with nearly parallel-sided and square-edged neck. S.

13. $4\frac{1}{4}$ in. long, very slightly barbed, neck parallel-sided and square-edged. S.

14. $3\frac{1}{2}$ in. long, deeply barbed; neck broken partly off; round-edged. Nottawasaga. Loughheed col.

15. 5 in. long, sharp rib along middle, barbed; neck slightly tapering and round-edged. S.

16. $2\frac{1}{8}$ in. long, barbs broken; has the appearance of having been bored on each side to form neck. Wolfe Island.

17. $3\frac{1}{2}$ in. long, square-shouldered; tapering, round-edged neck. Downie Tp. P. R. Jarvis.

18. $1\frac{7}{8}$ in. long, slightly barbed. This small specimen is exceptional in the form of the neck, for although serrated, it is somewhat wider below than above. Lakefield. R. Q. Dench.

19. 4 in. long, considerably mutilated. S.

20. $3\frac{1}{2}$ in. long; is a fragment of some tool or weapon; one side slightly convex, and the other strongly ribbed. Lambton Mills. Wardie and Ottie White, Toronto.

In this case are also:—

1. 11 in. long, $1\frac{5}{8}$ wide, and $\frac{3}{4}$ in. thick; sides convex and corners rounded; one end is square and blunt, and measures $1\frac{1}{8}$ in. wide, the other is thinned to an edge and is only $\frac{5}{8}$ in. wide. On one side is a scratched figure like a capital T, the lower end of the upright stroke being forked, and on the opposite side a similar mark but with a bar across the middle of the upright. Arkona. S.

2. $11\frac{3}{8}$ in. long, $1\frac{1}{4}$ in. wide, and $\frac{3}{4}$ in. thick; one end 1 in. wide, and chisel-edged; the opposite end $\frac{1}{2}$ in. wide, thinned and rounded. West Williams Tp. M.

3. $8\frac{5}{8}$ in. long, $1\frac{3}{8}$ in. wide, and $\frac{7}{8}$ in. thick; one end 1 in. wide, thinned, but blunted as if from use. The opposite end terminates in a rounded point about $\frac{3}{8}$ in. diameter. Point Edward.

4. $11\frac{3}{4}$ in. long, $1\frac{1}{8}$ in. wide, and $1\frac{1}{8}$ in. thick; tapering to both ends, one of which is $\frac{3}{4}$ in. wide, and the other $5/16$ in., both are chisel-edged. Chief Smith. Brantford.

Axe of striped slate, $6\frac{1}{4}$ in. long, and $3\frac{3}{8}$ in. across the mouth. Looked at sidewise it has the appearance of an elongated pear. Richmond, Indiana.

CASE Z.

MISSCELLANEOUS.

1. Smoothly rubbed stone. A. W. Reavley.

2. Flint. A. W. Reavley.

3. " "

4. " "

5. " "

6. " "

7. Stone axe. Wm. Michener. Humberstone.

-
- | | | |
|-----|--|-----------------|
| 8. | Bone awl or needle. | Wm. Melville. |
| 9. | " | " |
| 10. | " | " |
| 11. | Clay pipe | " |
| 12. | " | " |
| 13. | " | " |
| 14. | " | " |
| 15. | " | " |
| 16. | " | " |
| 17. | " | " |
| 18. | " | " |
| 19. | " | " |
| 20. | " | " |
| 21. | " | " |
| 22. | " | " |
| 23. | Stone tablet | " |
| 24. | Small notched bone or needle. | Wm. Melville. |
| 25. | Small discoidal stone. | Wm. Melville. |
| 26. | " | " |
| 27. | " | " |
| 28. | " | " |
| 29. | Several pipe stems, stone | " |
| 30. | Small bone chisel. | David Melville. |
| 31. | Worked bone | " |
| 32. | Small stone axe | " |
| 33. | Small discoidal stone | " |
| 34. | " | " |
| 35. | " | " |
| 36. | Discoidal stone, $2\frac{1}{4}$ in. dia., with hole in centre. | David Melville. |
| 37. | Clay pipe. | David Melville. |
| 38. | " | " |
| 39. | " | " |
| 40. | " | " |
| 41. | " | " |
| 42. | Pipe stems | " |

All those from No. 8 to No. 42 are from Nottawasaga Tp.

43. Small discoidal stone, with hole in centre and groove round outer edge.
York Tp. Jos. Smelser.

CASE A2.

MISCELLANEOUS.

1. Pipe head. Lambton Mills. Wardie and Ottie White.
2. " broken. Lambton Mills. W. and O. White.
3. String of glass beads. " " " "
4. " and shell beads. Lambton Mills. W. and O. White.
5. Pipe-stem. Lambton Mills. W. and O. White.
6. Bear's tooth (bored). Lambton Mills. W. and O. White.
7. Diagonally notched bone. " " " "
8. Carved fragment of bone, (probably of European origin). Lambton Mills. W. and O. White.

9. Small hollowed stone. Lambton Mills. W. and O. White.

10. Two broken shell beads. Loughheed col.

11. Small, flat stone, perforated. "

12. Stone in preparation for beads. "

13. Bear's tooth (notched). Loughheed col.

14. Stone axe. Sebastopol Tp. Alex. Parks.

15. Gouge. Golden Lake, Algona Tp. Alex. Parks.

16. Stone axe. Brantford. P. R. Jarvis.

17. " N. Easthope. "

18. " Ellice Tp. "

19. " " "

20. " N. Easthope. "

21. " (grooved). Ellice Tp. P. R. Jarvis.

22. Gouge. P. R. Jarvis.

23. Belt ornament, sheet copper. P. R. Jarvis.

24. Pottery fragments. Delaware Tp. P. R. Jarvis.

25. Shell ornaments (2). P. R. Jarvis.

26. Clay pipe. Zorra Tp. "

27. " " "

28. " " "

29. Red stone bead. Saugeen. P. R. Jarvis.

30. Spoon; Sioux (buffalo horn). "

31. Bone chisel. Near Battleford, N. W. T. Major J. M. Delamere.

32. Pipe from grave near Stony Lake, N. W. T. Major J. M. Delamere.

33. Copper kettle. North-west of Battleford, N. W. T. "

34. Slate $5\frac{5}{8}$ in. long, 4 in. wide, and $1\frac{5}{8}$ in. at thickest. Oval hole (long dia. 1 in.) in middle, from side to side. Outline much like the McCallum pipe, and suggestive of a monkey. May have been intended for a large pipe. Nottawasaga. Angus Buie.

35. Fragment of stone pipe; head showing a fairly well cut human face $\frac{5}{8}$ in. long, above and behind which is a dog's head neatly cut. The latter is only half an inch long, and about the same breadth across the forehead, but the eyes, ears, mouth and nostrils are imitated. Nottawasaga. Angus Buie.

36. Pipe-head (snake) somewhat like No. 90 in case S. Nottawasaga. Angus Buie.

37. Human head from pipe-head. Nottawasaga.

38. Plain clay pipe. Ellice Tp.

39. Small pipe, like modern N. W. type. Nottawasaga. Angus Buie.

This case contains also 47 flints from various places in Perth Co.

All the articles in cases Z and A2 are placed there only temporarily, until a re-arrangement of specimens in other cases will afford room for them.

WALL CASE 1.

POTTERY.

1. Small cup, edges broken. Beverly Tp. Dwyer collection.

2. Small cup, almost perfect. Beverly Tp. Dwyer collection.

3. Plain vessel, moulded in grass basket. Humberstone. Cyrenius Bearss.

4. Small spoon-like specimen. Nottawasaga. Loughheed collection.

5 to 42. Very fine specimens of clay vessels, entire or nearly so from mounds in Arkansas. From the collection of C. W. Riggs, Cincinnati.

43. Small and imperfect cup. York Tp. Dr. R. Orr, Maple.

WALL CASE 2.

1 to 13. Iron tomahawks from various localities.

14. Copper kettle. Algona Tp., Renfrew Co.

15. *Pyrula perversa* from ossuary. Penetanguishene.

16. *Pyrula perversa*. No locality.

17. *Pyrula perversa* from ossuary on Cape Hurd.

18. *Pyrula perversa* from ossuary in Humberstone Tp. Mrs. Barney, sr.

19. *Pyrula perversa* from ossuary in Nottawasaga. Angus Buie.

20. *Pyrula perversa* from ossuary in Nottawasaga. Angus Buie.

21. Wooden war club, modern.

22. Wooden war club, made to represent a hand grasping a ball, modern.

23 to 34. Iron tomahawks of various patterns and from various localities.

WALL CASE 3.

CRANIA.

1 to 55. From ossuary, on the Keffer farm. Vaughan Tp.

WALL CASE 4.

CRANIA.

1 and 2. No record.

3. Withrow Avenue, Toronto. E. A. Macdonald.

4. Beverly Tp. Dwyer col.

5 and 6. Withrow Avenue, Toronto. E. A. Macdonald.

7 to 12. Humberstone Tp.

13 to 28. Nottawasaga Tp.

19 and 20. Withrow Avenue, Toronto.

21. Upper half containing portions of beaver skin and pieces of cedar bark, Beverly Tp.

22. Withrow Avenue, Toronto.

23 to 32. Ridley and Bury farm, Clearville, Orford Tp.

33. South Bay, Manitoulin Island. R. Baskerville, Manitowaning.

WALL CASE 5.

Contains nearly 400 stone axes and chisels of various dimensions, from two inches to upwards of one foot in length, also 14 iron tomahawks.

WALL CASE 6.

Contains about 1,000 arrow and spear heads from different parts of Canada and the United States.

Six iron tomahawks.

A large number of pottery fragments from Miller's farm, York Tp., and a quantity of miscellaneous material.

MORTARS OR MILLS.

1. Victoria Co. Dickson col.
2. York Tp. S.
3. Vaughan Tp. Dr. Orr, Maple.
4. York Tp. contains four cavities.

MODERN SPECIMENS.

Blood Indian. N. W. Territory.

- 1 Leather belt, beaded.
- 1 Pair woman's leggings, beaded.
- 1 " man's leggings, beaded.
- 2 " large breast buttons; beaded.
- 4 Paint bags, one containing paint, beaded.
- 1 Pair large moccasins, beaded.
- 1 " child's " "
- 1 Tom-tom.
- 1 Large wooden pipe stem, plain.
- 1 " " beaded.
- 1 Kooie stick; handle beaded.
- 1 Hammer; long handle, beaded.
- 1 Whip; handle beaded.
- 1 "Medicine" bag of buffalo hide.
- 1 Hunting knife
- 1 Leather cartridge pouch.
- 1 Scalp, with lock of hair.
- 3 " locks.
- 1 Fire-steel attached to thong.
- 1 Signal hand-glass in richly beaded bag.

These were presented by Rev. John McLean, M.A., Ph. D., Moosejaw, N. W. T.

Arouay Indian. British Guiana.

- 1 Man's head-dress.
- 1 Wooden club.
- 1 Blow-gun.

- 1 Bundle of small arrows or darts for use in the blow-gun.
- 1 Bow.
- 1 Bundle of arrows.
- 1 Fan.
- 2 Spears.
- 1 Woman's dress.

These were presented by Mr. M. M. Fenwick, B.A., Head Master, High School, Bowmanville.

WALL CASE 7.

ESKIMO.

- 1. Skin of harp-seal.
- 1. Child's coat, fur.
- 3. " trousers, fur.
- 4. Pair of mitts, fur.
- 5. " shoes "
- 6. " boots "
- 7. Man's coat, "
- 8. Woman's coat, "
- 9. Man's coat with hood, fur.
- 10. Bed, fur.

On wall—

- 11. Snow shovel; wood and bone.
- 12. Snow stick.
- 13. Walrus spear.
- 14. Whale line.
- 15-16. 2 seal lines.
- 17. Model of kayak.
- 18. " " frame.

These were presented by Mr. F. F. Payne, of the Meteorological Observatory, Toronto.

- 19. Model of Kayak. Mr. John Notman, Toronto.

CARIB.

From Nevis, St. Kitts, Barbados and other West Indian Islands.

- 1 Stone club head.
- 1 " celt or axe.
- 4 " pestles.
- 1 Shell celt.
- 2 " gouges.

These were presented by Mr. Connell, of Nevis, W. I.

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Vol. II. ochre, p. 18; birch bark tents, 63, snowshoes, 85; Sioux dress and moccasins, 105; Sioux knife-sheath, 119; Cree medicine bag, 128; medicine rattle, 132; spirit charm, 134; pp. 137-141 describe pipes, with 16 figures; figures of tobacco pipes of the Swampy-Crees of L. Winnipeg, and of the Ojibways of Rainy Lake, p. 139; figures of Sioux, Chepewyan, Plain Cree, and Blackfoot pipes, p. 140; figures of Babeen pipes, p. 141; Cree fire-bags, 143; Sioux quiver, bow and arrows, 144; Indian graves, 164-165; Huron ossuaries, 165; engraving of Indian burial-places, facing, p. 166; Indian graves are noticed at Vol. I., pp. 90-436, II., 122, 124, 164.

HIRSCHFELDER, C. A.—Gi-ye-wa-no-us-qua-go-wa, Sacrifice of the White Dog. The Indian, Vol. I., pp. 73-74, 86-87, 98-99.

General description of sacrifice of white dog by the Canadian Onondagas. Description of preparation and adorning the dog, p. 86. See Indian, the

———A Ceremonial Ornament. The Indian, Vol. I., No. 5 (March 17, 1886), p. 49.

Describes a stone found on Christian Island, Georgian Bay, semi-circular, with hole through the centre.

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HUNTER, A. F., B.A.—Ahoendoe; the last refuge of the Hurons. The Indian, Vol. I., p. 217.

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General description and enumeration of Huron village sites in Simcoe County, 57 ; description of ossuaries and remains found therein, 58.

Mr. Hunter, to whom the compiler of this Bibliography is indebted for various items, has a large amount of valuable information still in MSS.

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Gi-ye-wa-no-us-qua-go-wa, Sacrifice of the White Dog. No. 7 (April 14, 1886), pp. 73-74. C. A. Hirschfelder.

[Short note on discovery of bones of an Indian, with Queen Ann musket, kettle, etc., on farm of R. Kennedy, 7th concession, London]. *Ib.* p. 82.

Sacrifice of White Dog (continued). No. 8 (April 28, 1886) pp. 86-87 ; No. 9 (May 12, 1886), p. 98-99. Describes sacrifice as carried on by the Canadian Onondagas.

How the Crees banquetted me. No. 10 (May 26, 1886), pp. 110-111. Description of Cree dog-feast. Pipe (110), kettles (110).

Ahoendoe the last refuge of the Hurons. A. F. Hunter No. 19 (Nov. 24, 1886), p. 217. [The above citations are from a copy of the work kindly lent the compiler by Mr. A. F. Hunter, B.A.]

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pp. 43-4, description of Pagan Temple at Munceytown ; pp. 233-4, ornaments ; p. 242, deer-fence.

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Short note on Indian relics discovered at Montreal.

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Describes, with wood-cut, dark stone pipe, p. 14; Chinook and Cowlitz head-flattening, 180-181; Chinook utensils, 185; Chinook hut-building, 186; burial place, 202-204; fish-hooks, 43; fishing implements, 213-214; masks, 217; wiqua shells, 238; Babine lip and nose ornaments, 241-242; game of al-kol-lock (bone and ring game), 310-311.

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Describes Chippeway house, cradle and ornamentation, pp. 5-10; construction of canoes, 29-34; medicine lodge, 41-42; sacrificial stone, 42; figures used in game of *pagessan*, 82; game-sticks, 90; wampum, 136; birch-bark records, 145-165; figures of birch-bark drawings, pp. 146, 150, 153, 154, 157, 158, 159, 215, 287, 292, 387, 398, 400, 403; pipes, 282-283; figure of tomahawk, 296; decoy-fish, 330; spears, 330; snow-shoes, 333-337; Indian grave at Rivère au Désert, 373; dress of chiefs, 381.

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Vol. I. Facing p. 35, full page illustration of Iroquois bark canoe and paddle, description of same, p. 35; pp. 47-48, calumet de paix; p. 48, collier, belts of wampum; facing p. 73, figure of snow-shoes (raquettes), description 73-74.

Vol. II. Title is *Memoires de l'Amérique Septentrionale ou la suite des Voyages de Mr. le Baron de Lahontan*. pp. 151-152, burial; facing p. 175, figures of bow, arrow and tomahawks; facing p. 189, totems of Hurons, Ouataouas, Nadouissis (Scioux) Illinois; armours, 189-91; facing p. 190 totem of Outchipoues (Sauteurs), Outagamis, Oumamis, Pouteouamis; opp. p. 191, full page of "Hieroglyphes," with explanations on pp. 191-194.

cu LANE, CAMPBELL.—Sun Dance of Cree Indians. Canadian Record of Science, Vol. II. (1886), pp. 22-26.

LANG, J. D., D.D.—Origin and Migrations of the Polynesian Nation. First edition, 1834.

Brief reference to earthwork near Lake Simcoe in foot-note to p. 109. Note not in second edition. [Note of Mr. A. F. Hunter.]

u L'HEUREUX, JEAN, M.A.—Notes on the astronomical customs and religious ideas of the Choketapis or Blackfeet Indians. Report of Proc. of Brit. Assoc. for Adv. of Science. Fifty-fourth meeting (Montreal, 1884).

P. 921 [Abstract].

Notices talismans, tau-cross, and stone circle.

u ———Notes on the Kecip Sesoators or ancient sacrificial stone of the N. W. territory of Canada. Report of Proc. of Brit. Assoc. for Adv. of Science (fifty-fourth meeting, Montreal, 1884). London, 1885.

Pp. 921-922 [Abstract.]

Describes boulder of quartz on S. E. side of Red River, said to be used as sacrificial stone by Blackfoot Indians.

cu MARKHAM, CLEMENTS R., F.R.G.S.—On the origin and migrations of the Greenland Esquimaux. Journ. Roy. Geogr. Soc., London, Vol. XXXV (1865), pp. 87-99.

Description, p. 93, of yourts of stone on Melville and Banks Island; p. 94, general notice of Eskimo remains on Melville, Bathurst and Cornwall Islands; p. 95, remains on Wellington Channel, Griffith Island, Prince of Wales Island, N. Somerset, N. Devon, etc.

ut MASON, O. T.—Resemblances in Arts widely Separated. Amer. Naturalist. Vol. XXI (1886), p. 251.

List and description of different varieties of throwing-sticks in use amongst the Eskimo; amongst other, at Ungava Bay, Baffin Bay, Anderson River, etc.

tcu———Indian Cradles and Head-Flattening. Science, Vol. IX (1887), pp. 617-620.

Describes (p. 617) cradle of Bella Bella Indians of British Columbia, and of Chinook Indians. On pp. 619, 620, are plates containing amongst others figures of Bella Bella and Chinook cradles.

c ———The Beginnings of the Carrying Industry. American Anthropologist, Vol. II. (Washington, 1889), pp. 21-46.

Contains (p. 29) figure of hand-basket of Micmac Indians of Nova Scotia. See also Smithsonian Annual Report, 1884 (II., fig. 96).

u MAYNE, COMMANDER R. C., R.N., F.R.G.S.—Four Years in British Columbia. London, 1862, pp. XI., 468.

Chapter XI. (pp. 242-304), Aborigines of British Columbia. Pp. 253-254, clam-cooking; 254-5, fish-grease making; 258, carving and painting; 271-2, sepulture (with plate); 281-283, facial and other ornaments; 283-284, clothing, canoes, etc.

* McLEAN, JOHN. M.A., Ph.D.—The Indians; Their Manners and Customs. Toronto, 1889. Pp. X., 350.

Gives interesting accounts of wampum, pp. 16-20; Indian burial customs, 29-36; the peace-pipe, 54-57; Indian charms, 70-73; picture-writing, 90-94; iron-stone idol, 201-203.

cu. MERCER, MAJOR,—Catalogue of a few remarkable coincidences which induce a belief of the Asiatic origin of the North American Indians. Trans. Lit. and Hist. Soc. of Quebec. Vol. II. (1829), pp. 240-

General enumeration of resemblances in customs, arts, dwellings, implements, weapons.

MEYER, A. B.—Ueber Nephrit und ähnliches Material aus Alaska. Jahresbericht (XXI) des Vereins für Erdkunde zu Dresden, 1884. See Dawson, G. M

c MILLER, PETER, F.S.A. Scot.—Notice of Three Micmac Flint Arrow-heads from Merigomish Harbour on the northern coast of Nova Scotia, now presented to the museum. Proc. Soc. of Antiq. of Scotland, Vol. IX., N. S. 1886-7 (Edinburgh, 1887), pp. 212-214.

Describes arrow-heads from Merigomish Harbour, Pictou county. N. S. Description (p. 212) of camping ground; p. 213-4, quotation from Paterson's (*q.v.*) History of Pictou County, describing skull' stone axes, arrow-heads, etc., plowed up by Mr. Donald McGregor of Big Island, and description of ancient burial site.

cut "NATURE." London. Vol. XXXIX (1889), p. 545.

Brief note on paper of Dr. F. Boas on "The Houses of the Kwakiutl Indians of British Columbia" (U. S. National Museum).

l MONTGOMERY, PROF. HENRY, Ph. D.—Indian Remains in Simcoe and Muskoka. Toronto *Globe*, August 3rd, 1888. [Title and description from H. F. Hunter, B.A.]

Treats of Huron ossuaries, burial pits, village sites, pottery, etc., in Medonte, Simcoe county, and supposed inscribed rock in Muskoka.

NOTICE SUR LES MŒURS ET COUTUMES des Indiens Esquimaux de la baie de Baffins, au pôle Arctique, suivie d'un vocabulaire Esquimaux-français. Tours, Mame. 1826. [Title from Pilling's Bibliography of the Eskimo Language.]

NOUVELLE BRETAGNE. Vicariat Apostolique d'Athabasca et Mackenzie. Annales de la Propag. de la Foi., Vol. XLIII. Paris, 1871. Svo. Pp. 457-78. [Title from Pilling.]

et PACKARD, A. S.—Notes on the Labrador Eskimo and their former range southward. Amer. Naturalist, Vol. XIX. (1885), pp. 471-481.

t PATERSON, REV. GEO., D.D.—The History of Pictou County, Nova Scotia. 1877.

Contains a sketch of the Archæology of Pictou county. See Miller, Peter.

———Nova Scotia Archæology. The Stone Age. The Paterson Collection' *Dalhousie Gazette* (Dalhousie College), Vol. XXI., No. 7. Halifax, Feb. 21, 1889.

Description of the Paterson collection of stone, implements, etc., in the museum of Dalhousie college.

PETITOT, ÉMILE.—Sur quelques armes de pierre rapportées d'Amérique, avec atlas par l'auteur. Dans les *Matériaux*, d'Émile Cartailhac. Toulouse, 1875. [Title from Petitot's "Quinze Ans sous le Cercle Polaire."]

u ———Vocabulaire français-esquimaux, dialecte de Tchiglit des bouches du Mackenzie et de L'Anderson, précédé d'une monographie de cette tribu et de notes grammaticales. Paris, 1876. I-LXIV, 1-78, 4to.

The "Monographie" (IX.-XXXVI) contains some items of archaeological interest.

* ———Quinze Ans sous le Cercle Polaire. Mackenzie, Anderson, Youkon. Paris, 1889. Pp. IV-XVI, 1-322.

Notices burial of Déné, 133; Dindjié yourts, 181; Déné hut, 217; opp. p. 190 is a full page illustration of a Dindjié camp, and opp. p. 202 a full page illustration of a group of Déné on a winter voyage; opp. p. 217 is a full page illustration of the interior of a Déné hut with its occupants.

cu ———On the Athapasca district of the Canadian N. W. T. Canad. Record of Science, Vol. I. (1884-5). [Article reprinted from Proc. Roy. Geog. Soc. Lond., Nov. 1885.]

Pp. 46-53 taken up with a general description of the Indian tribes of that region.

* ———En Route pour la Mer Glaciale. Paris. Pp. 394.

* ———Les Grands Esquimaux. Paris, 1887. Pp. VI., 307.

Describes Eskimo sledges, p. 11; Eskimo pipes, 13; Eskimo huts, 49-52; Eskimo dances, 153-157; tents, 170; nets, 206. It contains a map of the region in question, besides seven plates, the chief of which are: Portrait of the chief of the Liverpool Bay Eskimo (facing p. 78); Eskimo village at mouth of Anderson River, 138; interior of an igloo, 192; Eskimo dance, 248; Eskimo camp, 299.

cu PHILLIPS, HENRY, JR.—On a supposed Runic Inscription at Yarmouth, Nova Scotia. *Proc. Amer. Philos. Soc. Philadelphia*. Vol. XXI, (1883-4), pp. 491-2, with plate on p. 490.

c QUESNEL, LEO.—Les Esquimaux, d'après M. Petitot. *Revue Scientifique*. Tome XLII, 3 e Série, 8e Année (1888), pp. 670-674.

Describes (p. 671) construction of an igloo. See Petitot Émile.

cu RAE, DR. JNO.—Eskimo Skulls. *Journ. Anthropol. Instit. of Gt. Brit. and Ireland*, Vol. VII. (1877-8).

———Eskimo Migrations. *Journ. of Anthropol. Instit. of Gt. Brit. and Ireland*, Vol. VII. (1877-8).

c REVUE CANADIENNE. Québec. February, 1875, pp. 108-109.

Describes Indian dress, feasts, burial, etc.

cu ROSS, BERNARD R.—An Account of the Botanical and Mineral Products useful to the Chepewyan tribe of Indians inhabiting the McKenzie River District. *Canad. Naturalist and Geologist and Proc. of the Nat. Soc. of Montreal*. Vol. VII. (1862), pp. 133-137.

u SAGARD [THEODAT], F. GABRIEL.—Le grand Voyage au Pays des Hurons situé en l'Amérique vers la mer douce, es dernières confins de la Nouvelle France dite Canada, avec un dictionnaire de la langue Huronne, etc. A Paris, 1632. Nouvelle Edition. Publiée par M. Émile Chevalier. Paris, Librairie Tross, 1865. Deux Tomes, pp. 1-268 (orig. paging, 1-380.)

Describes Canots (canoes), p. 89 (129); vessels of bark, 91 (132); cradles, 118 (170); chapelets, 135-136 (194-5); burials, 199 (285), 200 (287); birch-bark drawing, 245 (348), 246 (349); De la grande feste des Morts, 203-206 (291-295).

cu SCHULTZ, DR. M.P.—The Mound Builders of the West. *Canadian Naturalist and Geologist*, etc. Vol. IX. (1881), pp. 60-62.

Describes mounds and contents (skeletons, shells, ornaments), in Lisgar County, Manitoba.

tu SCHWATKA, FREDERICK.—Along Alaska's Great River. New York, 1885. Pp. 360.

Describes pp. 216-220, Ayan grave, near old Fort Selkirk, with full page illustration on p. 217; Ayan or Iyan paddle, p. 220; Ayan and Chilkat gambling tools, with figure, 227; dress and ornaments, 228; house and household implements, 230; Ayan moose-arrow, 230-232, with arrow figure on p. 231; knives, 232; winter-tent, 232-3; carved pins for fastening marmot snares, 152; ruins of old Fort Selkirk. 205.

tu SKIDMORE, E. RUHAMAH.—Alaska, its southern coast and the Sitkan Archipelago. Boston, 1885, pp. 333.

Pages 36-45 treat of the Haidahs. Houses and canoes of the Kasa-an (Haidah) Indians, 36-37; figures of three carved spoons and Shaman's rattle, 38; Haidah carvings and ornaments, 38-30; Shaman's totems, 41-42; figure of Kasa-an pipe, 268; totem-poles, 272-273; chief's residence at Kajan, figure, 274; Haidah canoes, 275; halibut-hook, 276; carving, 275-7.

ctu "SCIENCE," New York. Vol. IV. (1884), pp. 316-320.

Brief abstracts of papers read at Montreal meeting of the British Assoc. for Adv. of Science. Range of Eskimo in space and time—Dawkins—316-317.

Huron Iroquois as typical race of Amer. Aborigines—Wilson—318.

Anthropological Discoveries in Canada—Hirschfelder—318.

Origin of Wampum—Hale—320.

tuc———Vol. VII. (1886), p. 186.

Brief note on exploration of mounds in Manitoba.

"It appears from surveys made during the past summer that the northern limits of the Mound-Builders lie beyond the Red River of the north."

ctu——Vol. IX. (1887), pp. 606-7. Ethnological notes. The Serpent among the North-west American Indians.

Contains (p. 606) figure of dancing implement representing the Sisiutl.
See American Antiquarian.

SCHOOLCRAFT, H. R.—Onéota.

Notices (p. 326), earthworks near Dundas, Ontario.

SCHOOLCRAFT, H. R.—The Indian in his Wigwam or Characteristics of the Red Race of America. New York, W. H. Graham, Tribune Buildings, 1847.

Pp. 324-327 contain a letter, dated from Dundas, Canada West, Oct. 26, 1843, giving an account of a visit to an ossuary in Beverley township. [Title and description from the Rev. W. M. Beauchamp, of Baldwinsville, N.Y.]

c SCOTTISH GEOGRAPHICAL MAGAZINE, THE. Vol. V. (1889), pp. 191-198. The Eskimo Tribes.

A review of "The Eskimo of Tribes; their Distribution and characteristics, especially in regard to language," by Dr. H. Rink (Vol. XI. of the Meddelelse on Groenland, Copenhagen, (1887). Treats of implements, pp. (192-193), dwellings, 193-194; dress and ornaments, 194; domestic industries and arts, 194-5; religion and folk-lore, 195; social organisation, 195-7; distribution and division, 197-198.

u SCOULER, JNO., M.D., F.L.S.—On the Indian Tribes inhabiting the N. W. coast of America. Ethnol. Journ. Journ. of the Ethnol. Soc. of London. Vol. I. (1848), pp. 228-252.

u SOUTHEK, THE EARL OF, K.T., F.R.G.S.—Saskatchewan and the Rocky Mountains, A Diary and Narrative of Travel, Sport and Adventure during a journey through the Hudson's Bay Territory in 1859 and '60, Edinburgh, 1875. XXX., 448.

Describes (p. 59) Cree calumet pattern on Skin Robe; p. 258, Assiniboine Pipe and stem, with figure; p. 261, Assiniboine knife-sheath and fire-bag.

u SPROAT, GILBERT, MALCOLM, ESQ.—The West coast Indians of Vancouver Island. Trans. of Ethnl. Soc., London. New Series, Vol. V. (1866), pp. 243-254.

Describes houses (pp. 247-249), arts (249), instruments (250).

u SQUIER, E.G., M.A.—Antiquities of the State of New York, being the results of extensive original surveys and explorations, with a supplement on the Antiquities of the West, Buffalo, 1851.

Notices (pp. 15-16), remains found on Canadian side opposite Morrisville by Dr. Reynolds (*q. v.*); p. 16, figure of terra-cotta mask found there. Pages 100-107 treat of ossuaries, etc., in Simcoe County, Ontario, after Bawtree (*q. v.*). P. 100, human bones, etc., discovered near Barrie in 1846, ossuary near St. Tincents; 100-103, ossuary near Penetanguishene in Township of Giny (read *Tiny*) examined in 1847, from which skulls, 26 kettles of copper and brass, 3 large conch-shells, piece of beaver skin, large iron axe, human hair, copper bracelet, beads, etc., were taken, description of pit, p. 101, kettles 100-102 (figure on page 102), conch-shells 102 (figure on 102), axe, with figure, 102, pipe 102-103, beads 103. Pages 103-104 describe another pit (2 miles from above), and contents; 104-105, a pit discovered in Oro township in November, 1847, in which several hundred skeletons, 26 kettles, one conch-shell, one iron axe, a number of flat perforated shell-beads and pipe were found. Pages 105-6 describe a pit in the Township of Giny (Tiny), from which a large number of skeletons, 16 conch shells, a stone and a clay pipe, copper bracelets, and ear-ornaments, red-pipestone beads, and copper arrowheads were taken. Pages 106-108 deal with a fifth pit in the centre of the Town of Tiny, with figure and plan opposite page 107. P. 108 notices a burial place on Isle Ronde, near the extremity of L. Huron, and one near Hamilton, Ont. Pages 108-110 contain quotation from Charlevoix (II., 194), on the *Fête des Morts* among the Hurons and Iroquois. On p. 142, and p. 267, are brief references to earthworks in Canada.

l STONE, WM. L.—Orderly Book of Sir John Johnson during the Oriskany Campaign, 1776-1777. Albany, 1882.

A note on page 68 describes a large Indian burial-ground on the shore of Button Bay, Wolfe Island, discovered in 1878, by reason of the washing away of the shore. Find of large spears, arrowheads and skulls (encased in mica). Also a mound covering skeletons.

THOMAS, MISS NORA.—Burial Ceremonies of the Hurons. Translated from the Relations des Jésuites, 1636, pp. 128-139. Supplemental Note to "Burial Mounds of the Northern Section of the United States," by Prof. Cyrus Thomas in Fifth Annual Report of the Bureau of Ethnology, 1883-1884 (Washington, 1887), pp. 3-139.

Describes the burial customs of the old Hurons of the Province of Ontario as recorded by Brebœuf and others in the Jesuit Relations.

c THOMPSON, GILBERT.—Indian Time Indicators. American Anthropologist, Washington. Vol. II. (1889), pp. 118.

Describes from Hind (Vol. I. p. 150), rude form of sun-dial employed by the Nascapée Indians.

TORONTO "MAIL." Vol. XVIII., No. 7,913. (February 27, 1889), p. 4, col. 6. Description [from the St. John (N.B.) Educational Review] of Pictographs on the Fairy rocks, between Annapolis and Queen's County.

———September 20, 1889. P. 8, col. 2.

Notice of ossuary and contents, near Thornhill, Ontario.

cut TURNER, LUCIEN M.—On the Indians and Eskimos of the Ungava District, Labrador. Proc. and Trans. Roy. Soc. of Canada, Vol. V. (1887), Sec. II., pp. 99-119.

Describes Nascopie funeral customs, 113; dressing deer-skins, 110-111; wigwam, 111; method of burial of *Iticinnut* (Ungava) Eskimos, Tahaagmagut, 103; dress of Tahagmyut, 102; ivory gambling-blocks, 102.

c ———Scraper of the Naskopie (Naynaynots) Indians. American Anthropologist, Washington. Vol. I. (1888), pp. 186-188.

Describes a bone-scraper of the Nascopies and method of making and manner of using it.

cu TYLOR, E. B., D.C.L., F.R.S.—Old Scandinavian Civilization among the Modern Esquimaux. Journ. Anthropol. Inst. of Gt. Brit. and Irel. Vol. XIII. (1884), pp. 348-356.

u TYTLER, PATRICK FRASER.—The Northern Coasts of America and the Hudson's Bay Company's Territories, with a continuation by R. M. Ballantyne. London, 1854.

Describes ornaments and implements of the Dog-Ribs, 148; house of the Diguthee-Dinees or Quarrellers, 152-153; carved and painted posts, 180; canoes, 180; Eskimo nose-ornaments, etc., 234-255; dress, 235; Eskimo House of Assembly on Atkinson Island, 244-245; Kayaks and oomiaks, 369-370.

u VIRCHOW, HERR.—Die anthropologische Untersuchung der Bella-Coola. Zeitschrift für Ethnologie, 18. Bd. (1886), S. 206-215.

Treats of dance-masks, 208; houses and totem-poles, 208; wood-carving, 208; tattooing and scarring, 210-211; physical characteristics, 212-215, and table of measurements of body and skull of Bella-Coola.

l WELD, ISAAC, JR.—Travels through the States of North America and the Provinces of Upper and Lower Canada during the years 1795, 1796 and 1797. Fourth edition. Illustrated and embellished with 16 plates. London, 1807, 2 vols., I-VIII., 1-376.

Describes Indian dress and ornaments, 231-238; brooches, 236; bracelets, ring, ear-rings, etc., 236, nose-pendants, 237; silver and shell breast-plates, 237; utensils, 241-243; weapons, 243-244; wampum, 249-252; quill-work, 259-260.

c WEST, JOHN, A.M.—The Substance of a Journal during a residence at the Red River Colony, British North America and frequent excursions among the North-west American Indians, in the years 1821, 1822, 1823. Second Edition enlarged with a journal of a mission to the Indians of New Brunswick and Nova Scotia and the Mohawks on the Ouse or Grand River, Upper Canada, 1825-1826. London, 1827, I-XVI., 1-326.

Describes Eskimo toys, images, etc., 7; Indian (Saulteaux?) burial, 33; burial of Stone (?) Indians, 55.

tu WHYMPER, FREDERICK.—Travel and Adventure in Alaska. New York, 1869. I-XIX., 353.

Describes (p. 74) masks used by the Aht Indians of Vancouver Islands with figure of the mask on page 77.

u WILSON, CAPTAIN.—Report on the Indian Tribes inhabiting the country in the vicinity of the 49th parallel of N. Latitude. Ethnol. Journ. Journ. of the Ethnol. Soc. of London. Vol. IV. (1865), pp. 275-332.

Describes, Kootenay head flattening: burials; dwellings; canoes; Selish houses; dress; native manufactures.

tuc WILSON, SIR DANIEL, L.L.D., F.R.S. E.—The Huron Race and its Head-Form. Canad. Journal, Second Series, Vol. VIII. (1871-3), pp. 113-134.

Plates opposite pp. 113, 126, 128; table of measurements, p. 131.

tu ————Prehistoric Man. Researches into the origin of Civilization in the Old and New World. Cambridge and London, 1862, 2 vols. New Editions, 1876, 2 vols.

Passim, and at I., 105, archæological discoveries at Toronto.

u ————Supposed prevalence of one Cranial Type throughout the American aborigines. Edinburgh New Philos. Journ., VII. (1858), 1-32.

u ————Some ethnological phases of Conchology. *Ib.* IX. (1859), 65-82; 191-210.

u ————On some modifying elements affecting the ethnic signification of peculiar forms of the human skull. *Ib.* XIV. (1861), 269-281.

cu ————On some modifying elements affecting the ethnic significance of peculiar forms of the human skull. Canadian Journal. Second Series, Vol. XV. (1861).

cut ————Pre-Aryan American Man. Proc. and Trans. Roy. Soc. of Canada. Vol. I. (1882-3), Section II., pp. 35-70.

Brief references to Eskimo and Haidah dwellings, 38; Haidah carving and ornaments, 40; companion of art of Eskimo and man of Vezère, 48-50.

tcu——Inaugural Address. Read May 22, 1882. Proc. and Trans. Roy. Soc. of Canada. Vol. I. (1882-3), Sec. II., pp. 1-12.

Brief comparison (p. 14) of art of Eskimo and Haidahs.


utc——The Huron-Iroquois of Canada. A Typical Race of the American Aborigines. Proc. and Trans. Roy. Soc. of Canada. Vol. II. (1884), Sec. II., pp. 55-100.

tu WINSOR, JUSTIN.—The Progress of opinion respecting the origin and antiquity of man in America. Narrative and Critical History of America. Edited by Justin Winsor. Vol. I. (1889), pp. 369-412.

Contains valuable bibliographical items. Also, p. 377 and 389, figure of Hochelaga skull from Dawson "Fossil Men."

REMARKS.

The present contribution contains some 160 titles (the first contribution contained 74) and the compiler hopes, with about three more, to make the Bibliography fairly complete. The Relation, of the Jesuits, works like those of Charlevoix, Lafitau, etc., will be cited in the next section, as will also the mass of books of travel relating to the Arctic coast of British America (some of which will be found in the present section), together with local histories and fugitive articles in newspapers and periodicals.

 *C, l, t, u*, before a title mean that the work from which the title and description have been taken, is to be found in the Library of the Canadian Institute (*c*), the Library of the Ontario Legislature (*l*), the Toronto Public Library (*t*), or the Library of the University of Toronto (*u*). A work marked by an asterisk (*) is cited from a copy in the possession of the compiler.

CORRIGENDA.

Corrigenda in No. I. (Report, 1887-188). P. 6, l. 27, read Sœur Ste Héliène. P. 6, line 8, read 2 vols.; p. 3, l. 41, read Aborigènes.

Archaeological Report
FOURTH ANNUAL REPORT

OF THE

CANADIAN INSTITUTE,

(SESSION OF 1890-91.)

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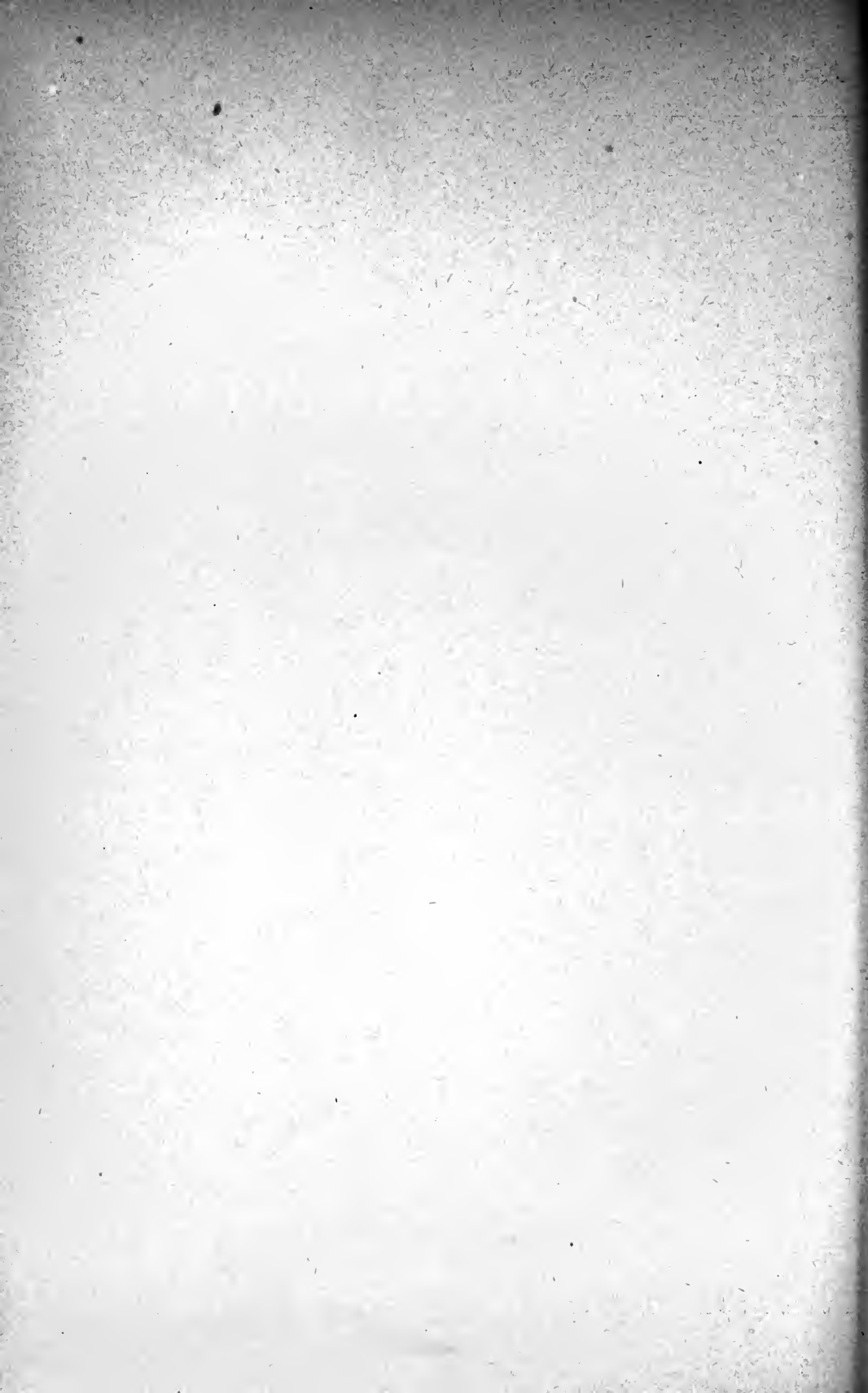
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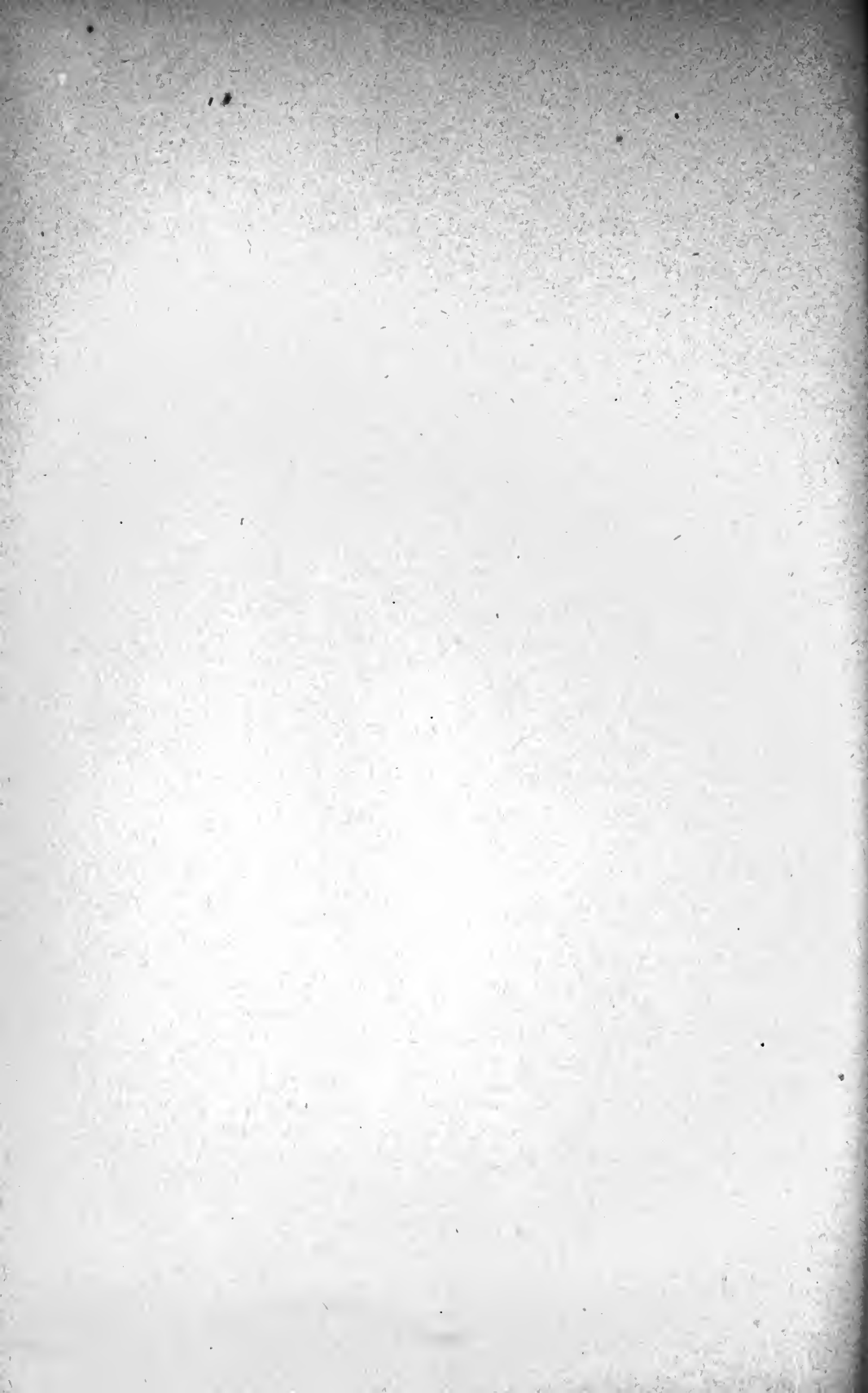
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ARCHÆOLOGICAL REPORT.

BY DAVID BOYLE.

To the President and Members of the Canadian Institute:—

GENTLEMEN,—In presenting you with the fourth annual archæological report, it is my extremely pleasant duty to inform you that the year just ended has proved in many ways the most encouraging of any since the inception of our project. Many places have been visited and more or less carefully examined, and from these considerable numbers of specimens have been added to our collection. Almost everywhere, a large measure of public interest was manifested, and this, it may be said, was mainly owing to the circulation of our previous annual reports, and to the visits of interested persons to the Museum. As was anticipated, there is an increasing disposition on the part of private collectors to place their specimens on permanent exhibition in our cases, as is the practice in connection with the best museums in Europe and the United States. In this way alone, the number of specimens in the Provincial Museum has been increased by nearly fifteen hundred. Early in the season Mr. W. G. Long of Lansing, York county, placed his collection numbering six hundred in our care.* The value of these is enhanced from the fact that they are nearly all from places within a comparatively short distance north of the city—the townships of York, Vaughan, Markham and Whitchurch. This collection is marked by an unusually large number of articles manufactured from bone and horn.

Dr. Tweedale, jun., of St. Thomas, has also made the Institute custodian of the chief portion of the fine collection brought together by his father, the late Dr. Tweedale. Most of the Tweedale collection is from a part of the country, Elgin county, formerly occupied by the Attiwandarons, and will prove valuable for comparison with specimens of the same people's work from their westerly limits in the county of Kent to the extreme east of their Canadian occupancy in Lincoln and Welland.

Mr. George E. Laidlaw of "The Fort," Victoria Road, Victoria county, has deposited with us his very fine collection, illustrative of a people bordering east of the Hurons, if, indeed they were not a branch of the Hurons themselves. In another part of this report will be found Mr. Laidlaw's own description of the Balsam Lake locality and the specimens it has yielded. As he has made this neighborhood a pretty close and very intelligent study for many years, his observations must be read with much interest.

But what is of even more importance is the increase of our knowledge relative to the areas occupied by different tribes; the sources from which they procured the various materials employed in the fabrication of their tools and weapons; their articles of exchange; their burial customs; their routes of travel; the character of their village or town sites; the extent of their dwellings; their methods of fortification; the modification of their habits under European influence, and many hints from peculiarly formed or incomplete specimens, as to the methods employed in fashioning objects of stone, copper, bone and shell.

* This collection is now the property of the Provincial Museum.

It is now generally understood that savage life is or was, much "the same with a difference" in all parts of the world, and it is the study of what constitutes this difference in a given district or territory that enables us to add to the common stock of ideas concerning the history of our race. Primitive man everywhere has made use of stone—at the outset, probably, just in its natural condition, and either as a missile, or as a hammer, but, in course of time, all our early representatives discovered the advantages of sharpness and hardness, and thus they were led to the flaking process, and to the selection of silicious material as being best adapted for their purpose. But all have not performed the flaking or chipping process in the same manner. A higher step in lithurgy was the production of polished celts or axes, but here again we find differences. In Europe many of these are perforated to receive a stout handle; in North America such a weapon or tool is never seen, or is so exceedingly rare that the exceptions are not worth taking into account. Again, almost all tools of this class found in Ontario are quite plain on the sides which have a taper decreasing towards the head or pole. Further south a large proportion of the stone axes are grooved transversely for the purpose of attaching them to their handles.

Commonplace as this remark may be regarding the celts of the two continents, it is nevertheless typical of differences that are known to exist amongst many classes of aboriginal workmanship within more limited areas, and a critical examination of minor variations in form, finish or material, is often sufficient to enable a conclusion to be arrived at relative to the local or tribal origin of a given specimen. A study of the objects composing the Long and Laidlaw collections, although these are from sections of the country not far apart, reveals a number of peculiarities. This is perhaps the more noticeable in the ornamental markings of pottery from the two localities.

In course of time the number of specimens from other portions of the province may afford material for wider and more detailed comparison.

Notwithstanding the very much increased amount of outside work that was performed during the year, the character of our operations is unsatisfactory—it lacks thoroughness. Many localities demand weeks and months of examination, but the limited resources of the Institute render this impossible. The progress of time serves but to prove the futility of our attempts to grapple with the task of Ontario's archæology otherwise than in the most superficial manner. From the Lake-of-the-Woods in the west to the Ottawa Valley in the east, our correspondence points to fields wholly untouched, or only partially touched. Even within a short radius from this city there remains much to be done. A year ago Dr. Parkman expressed the hope that we should be able to devote considerable attention to the ancient seat of the Hurons, but scarcely anything has yet been done towards the accomplishment of that important task.

While this state of the case affords matter for regret, we are not without reason to entertain hope. As already mentioned, the work of the Institute has been the means of arousing considerable interest in many places, and as a result of this the future will be marked by less disregard for what pertains to aboriginal life-history than has been the case in the past. A large number of private collectors are at work, many of whom are farmers, mechanics and members of the medical profession. A considerable proportion of these are not mere "curiosity hunters," but devote attention to the literature of archæology generally, as well as to its scientific bearings from the points of view afforded by their own localities. It is something even to incite or foster a praiseworthy sentiment of this kind, and the Canadian Institute has the satisfaction of knowing that it has done much in that direction.

Your curator is blameworthy for having failed upwards of a year ago to avail himself of your authority to visit one or more of the large American public collections for the purpose of learning what experience has taught in the management of these, and it should be the duty of the present official or his successor to take the earliest opportunity to compare the different methods employed at the Smithsonian Institution and the Peabody Museum in registering, numbering, classifying, cataloguing and otherwise recording accessions. Our own collection has now attained proportions so large that the very best, or, some good system should be adopted to avoid such future confusion as would render the specimens almost totally worthless for scientific purposes.

To Mr. Cyrenius Bearss; the brothers William and David Melville; Mr. Alex. Robertson of Madoc; Mr. Arthur Crawford of Tiny; Mr. H. F. Switzer of Midland City; Dr. T. A. Beeman of Bancroft; Ag-wah-setch (Francois Antoine) of Baptiste Lake; Mr. Wm. Michener of Humberstone; Mr. Chester Henderson of Southwold; Dr. McCallum of Dunnville; Dr. P. E. Jones of Hagersville; Mr. J. B. Freeman, M.P.P., of Simcoe*; Mr. A. E. Otway Page of Bertie; Mr. W. A. Reaveley, M.A., of Simcoe; Mr. Wm. Henderson of Toronto; Messrs Waters, Heath and Crouse of Brantford; Messrs. W. Ireland and J. W. Fitzgerald of Parry Sound and Rev. Mr. Gaviller of Parry Sound, we are especially indebted for many favors.

DAVID BOYLE.

* The death of Mr. Freeman, after a brief illness in November, 1890, deprived the Institute of one of the best friends its archaeological work could claim.

NOTES.

BY DAVID BOYLE.

THE SOUTHWOLD EARTHWORK.

What is probably the best example in Ontario, of an Indian palisaded enclosure is to be found on the property of Mr. Chester Henderson, lot 4, north side

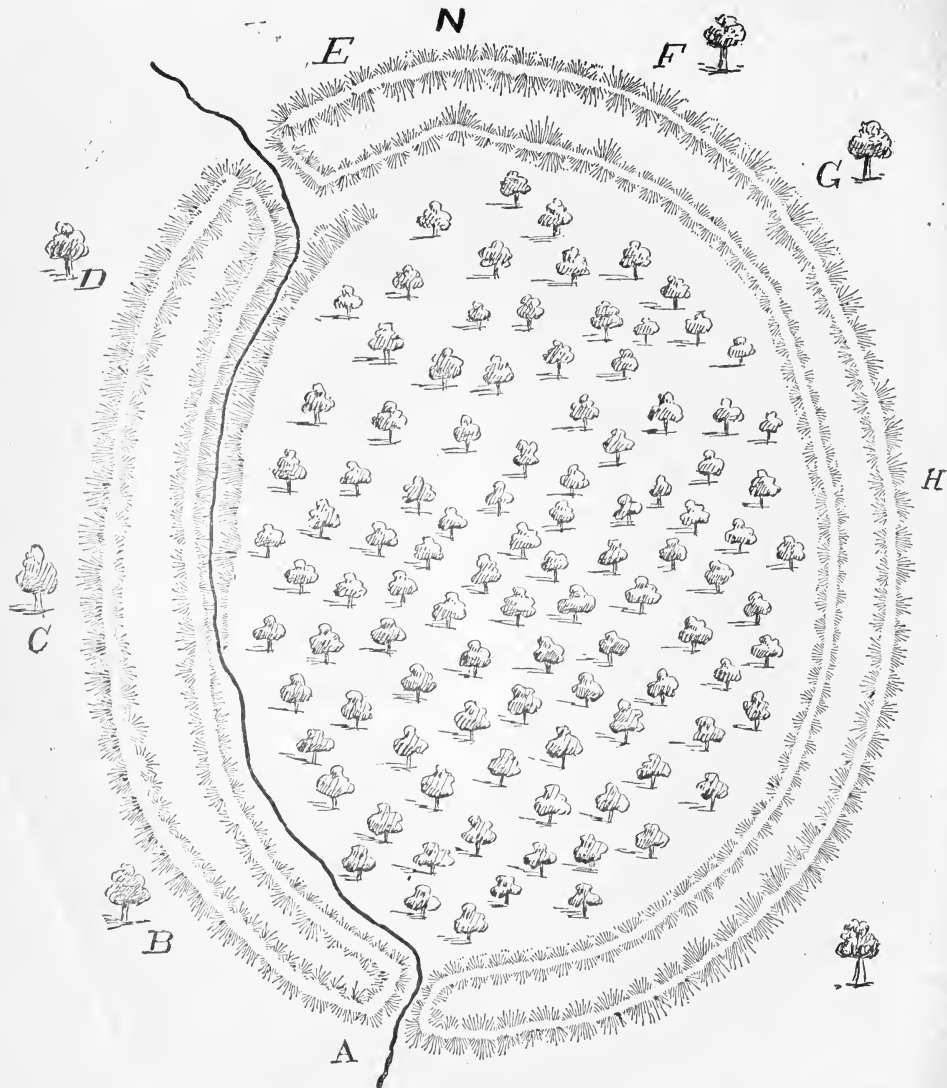


FIG. 1.—SOUTHWOLD EARTHWORKS.

of Talbot street, in Southwold Township, county of Kent. In the present state of our knowledge it may be premature to speak of it as having been palisaded, there being no direct proof to that effect, but from what we know of the methods

employed by the aborigines elsewhere in old Canada, it may be fairly concluded that the Southwold earthwork was of this description.

In the nature of the ground or of the situation there is but little to indicate any reason why this particular place was chosen by the Indians for defensive purposes. Usually, as has been frequently pointed out, places of this kind occupy moderately high land, near to, or forming the bank of some stream. A possible exception was referred to in our last report, where mention was made (pp. 11 and 12) of embankments on the bottom land of a branch of Batteaux creek, in Nottawasaga; but in that case the little tributary was at any rate available for fishing purposes, and, as was remarked, the remaining embankments may have at one time extended up the adjacent hill. Here the case is quite different there is no high land in the neighborhood, and the only water consists of the outflow of a strong spring which rises at a short distance south.

Although the Southwold works have been mentioned in several publications at intervals during the past twenty or twenty-five years, I am not aware that any measurements have been taken. At any rate, the following are the results of a visit paid to the place last May, in company with Dr. Tweedale, jun., then of St. Thomas, but now of Salem, Michigan. Unfortunately for our purpose a heavy rain continued to fall nearly all the time we were on the ground; but as the proprietor, Mr. Henderson, has kindly consented to give the Canadian Institute the first opportunity to make a thorough examination of the place next season, any mistakes made last summer may be rectified.

Apparently, the area enclosed by the double embankment, which forms the Southwold earthworks, is circular, but the tape line proves it to have a longer axis from north to south than from east to west, the respective measurements being 390 feet, and 330 feet from base to base of the outer slopes. The two banks are not equi-distant all the way round, as may be seen from figure 1. at *A, B, C, D, E, F* and *G*. The greatest amount of uniformity lies between the points *A* and *H*, where a width of about $23\frac{1}{2}$ feet is maintained throughout nearly one-fourth of the whole circuit. The northern portion of the work widens until the distance is upwards of 30 feet at *F*. But it is on the western side that the banks are farthest apart, varying from 28 feet at *B* to 44 feet at *C* and diminishing to 37 feet at *D*. Both within and without the enclosed area, the ground is level, except where, for a distance of 160 feet, the little stream in freshet moods has cut for itself a gully 10 feet below the top of the bank or about 7 feet below the general level where it emerges at the north-west. The general height of the banks is about 3 feet. In some places, as at a little east of where the stream enters, both banks are 3 feet 8 inches high. At the western side of the creek entrance, the outer bank is the same height, but the inner one is only 3 feet. At *A* the outer bank is $3\frac{1}{2}$ feet high, and the inner one 3 feet. Neither are the banks of uniform width. At a point nearly north-east near *F, G*, each measures across its base $6\frac{1}{2}$ feet; the distance from crown to crown being 25 feet, and the measurement over all being 37 feet, while at the north-west the outer bank is 12 feet wide at the base.

Near the south where the stream enters the enclosure, the configuration of the earthwork would seem to indicate the former existence of a gateway. The ends of the banks as they face each other on opposite sides of the stream are somewhat squarely shouldered, the exterior opening being 7 feet wide and the interior one 10 feet wide, while the passage narrows to 5 feet in the middle. About half of the stream's course, through the enclosed ground, is but little below the surface, but, as already mentioned, 160 feet from its exit it flows through a channel which deepens to nearly 10 feet. The gap in the banks could be easily strengthened by means of logs and branches extending from side to side.

Doubly stockaded as this enclosure probably was, it must of been well nigh impregnable if the occupants were at all prepared for assault. There is nothing in the plan to indicate even the remotest particle of European influence, and none of the relics found by Mr. Henderson's sons, and kindly presented by them to the Ontario Archæological Museum, affords evidence of the white man's presence while this interesting place was occupied.

It is impossible to say whether the ground, enclosed was cleared when the embankments were thrown up; if so, the period of occupation may be guessed at from the size of the largest trees now growing on the spot, or from the stumps of those that lived and died on it. A living maple within the double walls measures $3\frac{1}{2}$ feet in diameter, and there is an elm of the same dimensions, while an elm stump near the middle of the ground is 4 feet in diameter. The timber growth within the earthworks consists mainly of maple, elm, beech and iron-wood, and the trees number not fewer, probably, than 200, although we did not make an actual count.

When we consider how few really well preserved land-marks of the original people remain in Ontario it is deplorable to think that in a few years this earthwork with all its distinctive characters will be levelled in the course of cultivation, leaving, perhaps, not a trace of the importance it one time held in the economy of those who, regarding themselves as the natural owners, never dreamt of dispossession or displacement by strangers, especially by strangers from beyond the sea.

One cannot help wondering why municipal corporations (township or county), scientific bodies, or wealthy individuals do not make some effort to preserve all that is possible of such extremely interesting works as those of Southwold, although in what may be called a ruinous condition.

Through the efforts of Prof. Putnam, of the Peabody Museum, Massachusetts, the Serpent Mound in Ohio has been purchased, and is now public property. The Southwold earthworks, though less extensive, are quite as interesting in relation to the anthropology of Ontario as is the Serpent Mound to that of Ohio, and to think of the time when it will be cultivated out of existence, is anything but agreeable to those who take an interest in what pertains to a people regarding whom we know so little, and in a part of the country where so few well-marked monuments remain to attest the existence of early man.

The works cover an area little exceeding three acres, the purchase of which with the right of access, need not cost a very large sum, and it is unlikely that the intelligent proprietor would throw any unnecessary obstacles in the way of having the place set apart for preservation in its present condition.

In Great Britain the Public Monuments Act provides for the preservation of such places, but in Ontario, as in the United States, local effort and enterprise may be substituted for legislative enactment.

TUSCARORA AND ONEIDA.

A few miles from Hagersville, on the Six Nation Indian Reserve, in the township of Tuscarora, what is in many respects an interesting locality exists on the farm of Mr. Powles Baptiste, south half of lot No. 2, 3rd concession.

The whole of the Grand River Valley is rich in evidences of occupation by Indians long prior to the settlement of the Six Nations on the Tuscarora Reserve. In the neighborhood of Brantford, higher up the valley, Messrs. Waters, Heath and Crouse, enthusiastic amateur archæologists have succeeded in locating several

ancient village sites, potteries and ossuaries. Each of these gentlemen too has made for himself a collection containing many valuable and some rare specimens. Near the mouth of the river Dr. McCallum is doing good work in making observations and in the preservation of all specimens. Midway between these points Dr. P. E. Jones, of Hagersville, is on the alert, and it is to his kindness that the Institute is indebted, not only for the information relative to the Baptiste locality, but for many courtesies extended to the representative of the Institute while the examination of the place was being made.

Dr. Jones, who had several times visited Baptiste's place, was convinced that the clay bed which here forms the right bank of Boston creek had been worked by the ancient natives for pottery-making purposes. A brief examination proved the correctness of the doctor's surmises, and further observation showed that the finest or best quality of clay being found at some distance below the top of the bank, the old pathway between the deposit and the level ground above could still be traced; and what proved of even more interest was the existence of a broad and comparatively level portion of the bank at the foot of the path, but some feet above the hole from which the clay was taken, as if the material when excavated had been placed here to be carried upwards either by the digger or by an assistant. The situation of the spot may be seen at the angle which would be formed by lines drawn from the roots of the two trees at the right of the diagram to meet in the lower bank (Fig. 2). On the top of the bank and extending westwards across part

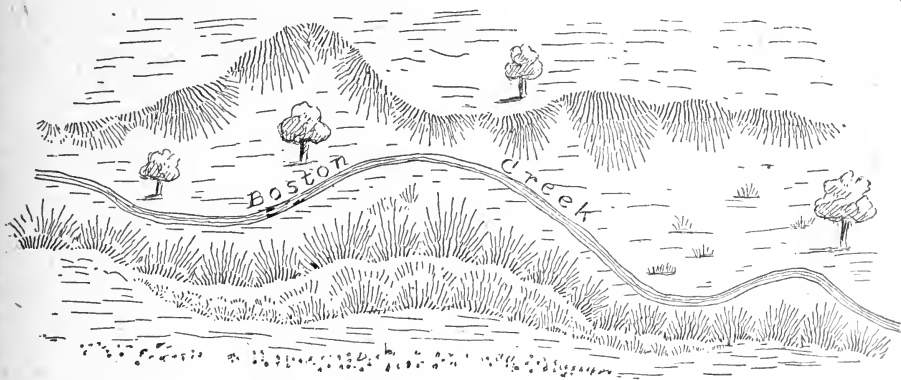


FIG. 2.—Tuscarora Village-site and Clay-bed.

of the adjoining farm a line of ash-beds could be traced by actual measurement for a distance of one thousand two hundred feet. Four Indians were employed for two days digging at various points on this village site, and the find was mainly of the usual character, except that on the Baptiste end were found three breast bones (Fig. 133), of some large fowl, which an Indian woman who was present stated had been used in twisting lines made from the fibre of basswood bark. On the Garlow farm, west of Baptiste's was found a granite boulder hollowed for grinding purposes.

It may be worthy of note that Powles Baptiste and the three other Indians who were employed, exhibited no superstitious fears in connection with their work, even when handling the bones of departed braves, for in one instance we came upon human remains.

A short time previous to our visit, Baptiste in excavating a cellar to the rear of his house, nearer the front of the lot, came upon a small ossuary containing seventeen skulls and some other bones. The skulls, he informed us, all faced outwards,

and were arranged circularly and pyramidally—seven forming the base, the upper tiers being composed respectively of five, three and two skulls, one of the uppermost being that of a child. The other bones were found both above and below the skulls.

Besides the specimens which were procured here others were presented by Dr. Jones and Mr. James E. Wood. From the latter gentleman we received a beautiful "ceremonial" weapon of Huronian slate, and an arrangement of conical bones on a string (Fig. 134), for playing a gambling or betting game, the name of which I could not learn. The Indians on this part of the Reserve are Mississaugas* and have long ago ceased to take any interest in such pastimes. Indeed, the whole band numbering 258, (213 in Tuscarora and 45 in Oneida), under the superintendence of Dr. Jones presents a model for imitation by those of Indian origin in other parts of America. Their farms are in a good state of cultivation, and well fenced. The live stock will compare favorably with that of the neighboring whites; the houses, as a rule, are commodious, clean, and comfortable, and no stranger driving through the settlement could observe anything to indicate that the land was farmed by others than white men. There is no doubt a considerable admixture of European blood among the members of this band, but this we know does not always tend to improvement. Here, however, the Mississaugas of every shade seem determined to vie with the white settlers in the arts of civilization.

The Reserve council-house is a handsome brick building, eligibly situated within an enclosure large enough to afford recreation ground for the young people. Flower-beds have been laid out opposite the front of the building, and the interior of the hall is well furnished. Portraits of the Queen, Sir John A. Macdonald, and of several distinguished Indians adorn the walls.

It was my good fortune to be able to accept an invitation to attend a meeting of the band held here, where the discussions were carried on quite as intelligently and in as business-like a manner as one might expect to find anywhere. Members of the band who read this may not consider it a very high compliment, but it will prove news to people who make no distinction between Mississaugas on the one hand and Crees, or Blackfeet, or Sioux on the other.

A short distance from the council house is the church (Methodist) built of brick also, and tastefully finished both without and within. The reserve school is maintained under the auspices of the New England Society and is well attended by the young Mississaugas.

BALSAM LAKE.

The name of this lake must always remain associated with the Huron expedition led by Champlain, in September, 1615, to make that attack upon the Iroquois, the bitter results of which the French in Canada were compelled to experience for nearly a hundred and fifty years, and which also in no small degree tended to the almost utter extermination of the Hurons and Eries by the terrible Iroquois within half a century from the date of Champlain's ill-starred alliance with the Hurons.

*"Undoubtedly the Mississaugas, Ottawas, Pahtewahtemahs, etc., are branches of the great Ochipwas. The Indian tribes derive their names from rivers, lakes, swamps, mountains, etc., and they frequently change their denomination from a removal to another locality. The term Mississaugah (to whom the Credit Indians belong) is probably derived from their residence near the mouth of some river, as the name signifies."—Indian Researches, SLIGHT, p. 22.

—The Rev. Peter Salt, native missionary, Parry Island, informed me that the correct pronunciation would be more clearly brought by the spelling Meezezauggee, which he interpreted to mean "the place of many mouths of rivers."

Describing this part of the allies' journey between the Georgian Bay and Lake Ontario, Dr. Parkman says, "The Huron fleet pursued its course along the bosom of Lake Simcoe,* up the little River Talbot, across the portage to Balsam Lake, and down the chain which form the sources of the River Trent."

This was no new route chosen for the occasion, but was one of the long established lines of travel between Lake Huron and Lake Ontario. The warriors of the Five Nations had often travelled it on their way to pillage and scalp the Hurons, and of the two thousand five hundred braves now led by Champlain, or, rather perhaps, leading him, it is probable that every lake, and stream, and swamp had frequently been traversed by the greater number.

Along such a highway it would seem reasonable to look for many traces of the former people, and this too more especially at the points of landing or departure forming the termini of the portages connecting the numerous lakes.

The old trail between the Talbot River and Balsam Lake is now used as a public highway, and is generally known as the Portage Road. As it nears the lake it runs through an extensive farm, known as "The Fort," the property of the brothers Laidlaw.

It is fortunate in the interests of archæology that a gentleman of Mr. A. E. Laidlaw's tastes should be so favorably situated for the observation of the facts illustrative of what pertains to this subject, and that he should have been so scrupulously careful in the preservation of everything found in the neighborhood that might tend to throw more or less light on the sociology of the first inhabitants.

On the "Fort" farm a short distance from the lake there is a village site which on examination yielded a considerable quantity of fragmentary pottery and several bone needles or awls. Not far away and *on lower ground* were two rows of single graves numbering altogether about twenty. In most of these only faint traces of human remains were found, but in a few there were still some of the larger bones entire, but so fragile that they crumbled away on exposure. I managed to secure two skulls in an imperfect condition. As the Hurons always selected high ground for their places of sepulture, the position of these graves seems to point to the possession of this territory by a different people, unless we regard the burials under consideration as having been intended for only temporary purposes, prior to removal at the period of the Great Feast of the Dead. It is noteworthy, however, that no ossuary or communal grave is known in that part of the country. The situation, depth, order and regularity of these simple graves indicated intentional permanence on the part of the people who made them. The bones in every case were at least three feet below the surface, and in some cases even more. In the grave from which the most perfect skull was taken, the bones were lying in natural order, at a depth of four feet.

It is also to be observed that the almost total absence of bones from some of the graves did not lead to the conclusion that any removal had taken place, but rather that decay had completed, or nearly completed its work, and this would favor the belief that the bodies were placed here long anterior to the beginning of the seventeenth century, a period we can fix with certainty in connection with some Huron ossuaries in which the bones may still be found in a comparatively sound condition. It should be mentioned, further, that no tools or trinkets of any kind were discovered in these graves.

In company with Mr. Laidlaw I visited most of the Islands that add so much to beautify the waters of Balsam Lake.

* Then and for many years afterwards known as Tentaron, Taranto, Taronto, or Toronto. It was also known to the French as La Claire.

On the west side of Ghost Island we opened a few single graves similar to those on the mainland, but scarcely any traces of human remains were found. On the south side of this island are two circular mounds about 17 feet in diameter, near to which Mr. Laidlaw had once picked up some pieces of bone, but an examination of these elevations proved that they had previously been opened, although it is not probable that they ever contained anything, as they have the appearance of natural formations.

Chief's Island, which is not more than a quarter of an acre in extent showed no evidence of Indian occupation, either permanent or otherwise.

Messrs. George and James Laidlaw had opened two graves, each containing one body, on St. Mary's Island, which forms part of their own property, but the occasion of our visit revealed nothing new.

Birch Island—very properly so called—has a number of grave-like depressions similar to those on the "Fort" farm and elsewhere in this locality, but no bones were found in them. In one place these depressions were in two rows of four each.

On the south point of Grand Island, in line with the old route from the Portage to the outlet of Balsam, evidences of Indian habitation were numerous.

Ant Island contains an ancient camping ground, and is one of the few places in this part of the country where the flint arrow-makers have left behind them traces of their handicraft. Here, too, many pottery fragments were scattered over the surface. Indicative of permanent residence or frequent resort of the Indians to this part of the country is a large, artificially hollowed boulder on the lake shore in front of the Laidlaw residence. Of this type there are two or three in the museum. They were, no doubt, used for grinding or pounding purposes, and the hardness of the material (Laurentian granite) is sufficient proof as to the length of time, or frequency of use, necessary to produce even a slight depression.

About eight miles west of Balsam Lake, at what is known as Logan's Hill, there is a moderately extensive village site, but, as it was under crop, no examination could be made. From this neighbourhood, however, we procured a number of specimens, some of which were quite valuable.

LAKE WESLEMKOON.

On receipt of what appeared to be highly promising information relative to the location of an ossuary some miles from Bancroft, in the county of Hastings, Mr. A. F. Chamberlain and I lost no time in proceeding to the spot. The location was on new ground—it was in the woods—it had never been disturbed. These conditions bade fair to recompense us fully for time, trouble and expense. Hastings may be called the county of magnificent distances, and so far, at any rate, as the northern four-fifths of it are concerned, it might well be characterized as the land of rocks and the land of lakes. Much of it is impossible of cultivation, and the roads are consequently like those of the Scottish Highlands before their improvement was undertaken by Cromwell's military representative, reminding one of what a local poet said about them:

"Had you seen these roads before they were made,
You would have said 'God bless General Wade.'"

Up and down hills frightfully steep, over rocks acres in extent, across corduroy bridges and "swampaducts," and past many lakes and lakelets we travelled fully

sixty miles to and from L'Amable with a two-horse "rig" containing tent, food, cooking utensils and spades. Numerous enquiries enabled us to find our way to the shores of an extensive lake locally known as "Westmacoon," but which we afterwards learned is spelled in a variety of ways, as Mr. Chamberlain in his paper points out. This lake lies partly in the townships of Effingham to the south and Ashby to the north, both in the county of Addington. Careful search on the part of four men enabled us to find, eventually, the place we wanted. It occupied a position on a plateau considerably above the level of the lake and not far from its margin. Much of the surface was marked by broken bones, but in such fragmentary condition that it was impossible to say whether they were those of human beings or of other animals. A few places within this area were suggestive of ossuaries, but digging gave no encouragement. It is just possible that, after all, our information was not sufficiently accurate to enable us to hit the spot we wanted; but, on the other hand, it is quite probable that "only this and nothing more" had given rise to the talk of the neighbourhood. Mr. Alexander Robertson, of Madoc, who joined us on our way, cannot be too heartily thanked for the many kind services he rendered throughout what may be termed "The Weslemkoon Expedition." His gift of specimens to the museum is elsewhere recorded.

At the close of our fourth day out we reached Bancroft, and from information furnished by Dr. Beeman we resolved to visit an island in Lake Baptiste, where about twenty Indians reside in a sort of semi-savage state, and where, we ascertained, there were traces of pre-historic occupation. A short voyage in a birch-bark canoe brought us to a small Indian settlement, the chief man being Francois Antoine, or Ag-wah-setch. While Mr. Chamberlain engaged Ag-wah-setch in matters philological, Jean Baptiste, the elder son, paddled Dr. Beeman and myself to the western end of the lake, where, at a spot known as Grassy Point, relics of various kinds had been picked up. One of our highly valued copper specimens, presented by Mr. Alex. Robertson, was found at this place.

Grassy Point has undoubtedly been either a permanent residence, or a place where frequent visits were paid by the Indians of by-gone days, judging from the number of traces left. Want of time, however prevented us from making anything beyond an exceedingly superficial examination of the ground.

Young Antoine having volunteered the information that he knew of a cave where his grandfather had often told him their ancestors used to conceal weapons of all kinds, our canoe was headed for the spot, on the south side of the lake, about two miles distant. The cave in question proved to be at least one hundred and twenty feet almost precipitously above the lake, and formed a recess about ten feet wide at the mouth, and extending not far short of twenty feet back, narrowing rapidly. Dr. Beeman, on the way up, thinking he heard a noise of some kind, paused, and asked Baptiste Antoine whether he too had heard any sound. The Indian's reply was "Wendigo, Wendigo!" indicating that, despite profession of Christianity, a little of the pagan clings to these people's habits of thought—possibly, however, they attach no more meaning to such an expression than some of ourselves do when we suggest ghosts or witches as probable causes of mischief.

Ag-wah-setch and another old Indian are experts in the making of birch-bark canoes, and, as we had an opportunity of seeing one "on the stocks," the following description of the steps taken in the manufacture of these marvellously light but strong vessels may prove not uninteresting; especially when we take into consideration that the day is not far distant when, like the arts of pottery and flint-flaking, the art of canoe-building will be quite forgotten.

A level place having been selected, a bed of clay somewhat larger than the canoe is prepared.* Into this a number of stout stakes are driven solidly and perpendicularly in two lines corresponding with the intended form of the canoe, and about six inches higher than it is to be. For a two-fathom boat the number would be six on each side, not counting those at the ends, where two are driven in side by side, with only sufficient space between them to admit of a double thickness of bark.

The bark having been previously procured in the largest possible sheets free from flaws, and having been kept for some time under pressure to take the curve out of it, is now placed between the stakes, inside out, or so that the natural bend will be reversed. In a canoe twelve feet long, or, to use the locally popular phraseology, in a "two fathom canoe," the number of sheets of bark may vary from four to six—the fewer the better. The overlapping edges that form the joints of the sheets are firmly stitched with thongs made from the fibrous roots of the spruce, and the joint is made water-tight by a liberal but neat application of pine pitch. Of course, this part of the work is done previous to placing the bark in position on the stakes. Firmly held together at the ends, the united pieces of bark now form a hollow into which water is poured. The water is brought to a high degree of heat by means of stones which are placed in it after being made hot in a fire close by. The effect of the steaming is to curve the bark to the required form—that is, as flat as possible at the bottom, and with sides rising almost straight. Ribs from one to two inches wide, and one-fourth inch thick of pliable material are next fixed in position not more than an inch apart, and these, again, are held in place by means of strips running lengthwise. The strips forming the gunwale are lashed firmly by means of spruce root. A light but stout bar across the middle, and a shorter one near each end add materially to the stiffness of the canoe. Timid passengers must sit in the bottom, but the expert paddler, white man or Indian, perches himself on a level with the thwarts, seemingly as secure as if in the jolly-boat of a man-o'-war.

In the production of canoes for sale, the modern Indian does not fail to avail himself of nails, though he still possesses the art of completing his tiny vessel if necessary, in true old-fashioned style. None in this locality but the two Indians mentioned attempt canoe-building, and Ag-wah-setch's son informed us he did not care to know how. In other places it is the same. Indifference on the part of the young men, increasing scarcity of bark, and the introduction of cedar boats will soon render the making of this elegant, light, substantial, serviceable, and peculiar craft a thing of the past.

Besides the result of surface finds along the shores, I procured from Ag-wah-setch a few stone relics he had picked up, and a very fine old specimen of porcupine quill work, the production of which is also rapidly dying out. Although Ag-wah-setch hails directly from Oka, he stated that the specimen in question (see colored plate) was once the property of his grandfather who resided near the Georgian Bay.

It is figured full size on the plate. Its use I was unable to learn, but in all probability it was worn in front, suspended from either the neck or the waist, bearing, as it does, a symbol—for the black, T-like design is certainly meant to represent a bird, and that bird, very likely, an eagle. The arrangement of colours is pleasing, and the pattern, though somewhat intricate, is almost perfectly

* It need scarcely be said that in some places this preparation would not be necessary to the same extent, but Ag-wah-setch had brought his clay from some distance to enable him to carry on his work near home.

symmetrical; the bird's head and neck being the only exceptions. In fact it was this very want of symmetry in these parts that led to the bird interpretation, for it was evident that some meaning must attach to the neck being a little to one side. Work of this kind necessarily demand not only much time, taste and patience, but an unusual amount of dexterity in so wrapping the quills (round the small strips of leather forming the foundation) as to keep them in place without showing any ends. Insignificant looking as this piece of work is, it has involved in the attachment of the quills alone not fewer than 1,155 distinct operations. Both sides are exactly alike in finish and appearance.

Mr. W. A. Davy, of Bancroft, gave us a stone gouge found on the farm of Mr. Billa Flint, on the York branch of the Madawaska River.

The Institute is under a debt of gratitude to Dr. T. A. Beeman, of Bancroft, and to Mr. Alex. Robertson, of Madoc, for many valuable services rendered to its representative while in North Hastings and Addington.

Before closing this part of the report, it may be mentioned as an interesting fact, and as illustrative of the character of extensive areas in North Hastings, that about ten or twelve years ago the moose made its appearance in the townships of McClure, Wicklow, Mounteagle and Herschel, and several animals of this species have been killed recently in the County.

MIDLAND CITY.

Within three miles of one another, and each at the head of its own magnificent bay, stand one of the oldest and one of the youngest centres of population in Ontario. Penetanguishene, during early British colonial days, was a place of considerable importance, and held still higher rank as a business centre during the period of French rule. Grouped round the site of the present town were many of the Indian villages whose names are familiar to every student of early Canadian history in connection with the Jesuit missions.

Midland "City," as the residents proudly style the newer town, is but of yesterday, comparatively speaking; but it already boasts of an extent, solidity, wealth and population placing it far ahead of many older towns, and making it a formidable rival to its ancient neighbor, Penetanguishene. Midland occupies a beautiful slope on the western side of Gloucester Bay, and the situation was undoubtedly as highly appreciated by the aborigines as by the Midlanders, for the farms in the vicinity bear evidence of ancient "settlement." Just outside of the town limits is a beautiful little lake of two or three hundred acres in extent, the shores of which were a favourite camping-ground. Near the highest point of land between the town and the lake is a driving-park which has recently been acquired and laid out by the enterprising citizens. In digging a post-hole for fencing purposes near the south-west corner of the park, the workmen came upon a small ossuary. None of the skulls or other bones were in sound enough condition to be preserved, but in the middle and at the bottom of the pit were found two very fine native copper implements (Figs. 145 and 146). Both of these, when placed in the grave were wrapped in beaver skin, portions of which yet adhere to one side of each implement. At the solicitation of Mr. William Henderson, of this city, the managing committee of the park company were good enough to send these to the museum for examination, and on the occasion of my visit, some time afterwards, the managers very kindly and very sensibly presented them to form part of the provincial archæological collection, where at least one of them (Fig. 145), will continue to be a source of admiration by American archæologists for all time.

Mr. H. F. Switzer, Midland town clerk, may be ranked as one of the museum's best friends, as we are indebted to him for many acts of kindness, including a donation of several pipes and other objects found in the vicinity.

When the incorporation of Midland as one of Ontario's cities is about to be consummated—an event probably not far distant—it is “devoutly to be wished” that the enterprising citizens will select, in place of the present unmeaning name, one that will connect it with the memory of the original people, and that will bear some historic interest—Huron, Machedash, Onentisati, Anonatea and Champlain are a few of many from which a choice might be made.

SAINTE MARIE.

The story of this old French-Huron fort and settlement has been written scores of times since the first reference was made to it by the missionaries themselves after its foundation in 1639. In the words of Parkman, “It was to serve at once as residence, fort, magazine, hospital and convent,” and again, “On two sides it was a continuous wall of masonry flanked with square bastions, adapted to musketry, and probably used as magazines, storehouses or lodgings. The sides towards the river and the lake had no other defences than a ditch and palisade, flanked, like the others, by bastions, over each of which was displayed a large cross. The buildings within were, no doubt, of wood; and they included a church, a kitchen, a refectory, places of retreat for religious instruction and meditation, and lodgings for at least sixty persons.” This from Dr. Parkman must suffice, but those who are interested and have not yet read the story of Sainte Marie as related by that historian, are referred to his extremely interesting volume, “The Jesuits in North America.”

In April, 1885, Mr. James Bain, junior, read a paper before the Canadian Institute, on “The present condition of the old French Fort at Ste. Marie,” in which he stated “that in 1856 some of the walls were six feet high, but on visiting it in 1884, he was grieved to find that the only traces of it were to be found in a few heaps of earth and broken stone.” This pretty correctly describes the condition of the ruins to-day, only that things are now a little worse.

Here, as elsewhere, there are “vain traditions” relative to hidden treasure, so that much of the demolition to the old fort is not due merely to the ravages of time. Relic hunters have had a considerable share in rasing the works both outside and inside. When I saw it last summer a heavy growth of weeds covered all that is left of the walls, and rendered it difficult even to examine the interior, but the outline of structure including the bastions can still be followed.

It is not probable that the walls ever exceeded eight or ten feet in height, or just high enough to prevent the enemy from easily scaling them, or from applying the torch as was customary when attacking simple palisaded enclosures. Perhaps a storey of wood was erected above the stone, or it may have been that the walls served only as a protection to buildings within. At all events, the *debris* represents what must have been a truly prodigious task in the heart of the forest two hundred and fifty years ago.

Saint Marie as represented in its ruins is, to-day, the oldest, and the only work of its kind in the Province of Ontario. Can anything be done to preserve it from further speedy decay? We have no castles, or keeps, or feudal mansions to connect us with the past of our country. We have no legendary lore to excite our wonder or to test our credulity—no traditional warriors of gigantic

proportions and super-human strength who performed extraordinary feats of arms. We are neither blest nor cursed with too much æstheticism. The wish to maintain all that is left of a once famous structure is not childish, nor foolish, nor retrograde any more than to desire the possession of an ancient heirloom, or to express admiration for some antique work of art, or piece of mechanism. The man is yet unborn who does not value a keepsake.

In the history of this country Sainte Marie is comparatively more ancient than what is left of the old edifices on Lindisfarne, or Iona, which are carefully kept in repair and jealously guarded from tourist vandals as well as from the ravages of time. Throughout Europe, historic ruins are regarded by the people with feelings of veneration as well as pride. Parents and grandparents delight to tell their oft told tales in connection with the days of yore, pointing to the cairn, or the cromlech, or the mouldering walls in the neighborhood, to attest the truth of the uncanny, but veracious (or otherwise) stories, and in this way the young folk have their interest awakened or incited in the history of their own country, and are all the better for it. In the United States steps have been taken in several places to preserve ancient monuments.

Unlike the round towers of Ireland, the British and French stone circles and the American mounds, there is nothing mythical or even doubtful regarding Ste. Marie. Its brief but bitter history is as well authenticated as that of any event or series of events that have happened in America since its discovery. It forms a closely connecting link through the French, between ourselves and the Hurons, a people who held the very highest rank among savages in this part of America. Few portions of the continent, and certainly no others in Canada, have been rendered so famous in the story of early settlement as the county of Simcoe. Most of the land on which Ste. Marie stands belongs to a Mr. Santimo, and a small portion is the property of the Jesuits. Perhaps it is only necessary to direct the attention of the prosperous and intelligent yeomen of Simcoe to the present condition of affairs, and that steps will soon be taken to purchase and put in order the old fort on the Wye.

Might not the enterprising Midlanders make a move in this direction? The accomplishment of such a work would be a credit to them. Four hundred dollars, perhaps less, would prove ample to buy the land, fence it, restore the outline of the fort, and erect a tablet setting forth in brief the history of the spot.

PARRY SOUND.

Parry Sound is the chief town in a district of the same name. In the present state of our knowledge it would be unsafe to hazard an opinion as to whether this part of the country was used as a hunting-ground by the Hurons of the south, or was part of the territory claimed by the Algonquins. At any rate these are proofs not only that the country was occupied of old, but that the population was somewhat numerous, whether at all stationary, or nomadic. Relics of the common varieties are not unfrequently picked up in the district, and the French traders and missionaries seem to have found their way here at an early period. From the Rev. Mr. Gaviller, Episcopalian minister, and Mr. J. W. Fitzgerald, we received a number of specimens illustrative of what usually occurs in the neighborhood. Some of these are described and figured elsewhere. From Mr. Wm. Ireland, editor of the *North Star*, we received one of the well-known French iron tomahawks.

Mr. Wm. Beatty has in his possession a bronze mortar weighing probably not less than twenty or twenty-five pounds, which was discovered under the roots of a large pine tree in the township of Macdougall. This vessel may be described as resembling in shape an inverted bell with a flat base. Two projections on opposite sides have been moulded to represent grotesque animal heads, and round the middle of the mortar are six *fleur de lis* in relief, three on each side of the heads. On the outer margin of the lip are the words "FAICT LAN 1636,"—made in the year 1636. The letters of this inscription have been attached somewhat carelessly to the pattern before it was moulded, so that they present an irregular appearance. Although richly resonant when struck, the suggestion that this was used as a bell is not at all well borne out; in the first place, because of the base on which it was evidently intended to stand, mouth up; secondly, the position and direction of the head-like projections; thirdly, the absence of marks as the result of being struck, and in the last place, because of the direction in which the *fleur de lis* and inscription stand. It is, at any rate, quite certain that this mortar was carried to the vicinity in which it was found, by the Jesuit missionaries, although, so far as I know, there is no record of their having reached a point so far north before their dispersion from Ste. Marie, in 1649. Perhaps some of the fugitive priests made their way to this part of the country carrying with them a portion of the materials from the fort and church. During the panic consequent upon the destruction of St. Ignace and St. Louis, by the Iroquois, many of the Hurons escaped northwards, and the following passage from Parkman* may serve to account for the presence of this vessel so far away as the township of Macdougall:

"Several of the priests set out to follow and console the scattered bands of fugitive Hurons. *One embarked in a canoe and coasted the dreary shores of Lake Huron northward, among the wild labyrinth of rocks and islets, whither his scared flock had fled for refuge*; another betook himself to the forest with a band of half-famished proselytes, and shared their miserable roving through the thickets and among the mountains."

In all probability the statement contained in the italicised sentence is sufficient to account for the finding of this vessel upwards of sixty miles from the old mission headquarters.

Within the town limits, on the southern slope of Belvidere Hill, Mr. Ireland pointed out a number of shallow pits the shape and arrangement of which were suggestive of white influence. The elevation is a commanding one, and the position of the pits would enable men in possession of them to rake the whole face of the hill from its most approachable side facing the water. A few of these have been opened, but nothing was found in them. It is not likely they were ever more than two or three feet deep, but this in the forest with the addition of logs would afford tolerably good protection to marksmen.

PARRY ISLAND.

Parry is the largest island in the archipelago that fringes the portion of the Georgian Bay coast along Parry sound district. It forms an Indian Reserve of mixed character, consisting as the population does of Mississaugas, Pottawatomes and Ottawas. All the Mississaugas, ninety-six in number, are treaty Indians, while the Pottawatomes and Ottawas, numbering upwards of one hundred are

* Jesuits in North America, twenty-first edition, 1885, p. 395.

non-treaty Indians. The Mississaugas and all profess Christianity, but among the others a considerable number, perhaps half, remain pagans. At the village about one-half are pagans and the rest Roman Catholics. Most, if not all of the Mississaugas are Methodists, and it is to their native missionary, the Rev. Mr. Salt, that I am indebted for these particulars.

Judging from what a short visit revealed, the Mississaugas forming this band are a long way behind their brethren in the townships of Tuscarora and Oneida.

Occasionally stone weapons and fragments of pottery are found on the island but hitherto no care has been taken to preserve them. No traces of ossuaries or of old village sites were known, but it is likely that some of these will be discovered if an examination be made.

POINT ABINO.

To many people in this country it is a source of wonder where the Indians procured their "flint," but to the dwellers along the eastern end of Lake Erie this matter is plain. Immense quantities of chert are found in the limestone forming the outcrops near the shore. Many of the nodules are sufficiently large to yield material for a score or two of arrow-tips or spear-heads, and although the quality in general is not of a character to permit of producing the finest specimens of flaking, there are occasional pieces that present excellent fractures. For miles along the sandy beach heaps of flakes may be seen. The number and extent of these warrant the belief that here the Indian fletcher carried on his trade both for "home and foreign consumption," as relics of this kind are found in all parts of the country corresponding in appearance with the Lake Erie material.

In company with Mr. Cyrenius Bearss I visited a field of several acres in extent on Point Abino in Bertie township, where thousands of chert fragments lie upon the surface, and, since it was ploughed, below the surface. In almost every instance, those fragments varying in size from mere chips to lumps three or four inches in diameter, show signs of having been handled. Some appear to have been split and rejected because of their unpromising fracture, others are gnarled nuclei from which the finer outside portions have been struck off. Finished and half-finished specimens have been found in considerable numbers on the same ground, but it was rather a source of supply than a place of manufacture.

The ancient Attiwandaron* had at least one good reason for earning the name of Neutrals, as they found it more advantageous to "make bullets for others to shoot" than to shoot them, themselves.

Not far away from the field mentioned, but still in forest, is a large dune of the fine sand that forms so much of the Erie shore in this section. At some points it is about twenty-five feet above the surrounding level, and the sides are as steep as it is in the nature of sand to be. The top is an irregular oval measuring from east to west 122 paces, and from north to south 156 paces. For the greater part of the distance round the top the margin forms a bank from five to eighteen feet above the average inner level, the highest point being near the middle of the east side, and the lowest exactly opposite. Within this area there were at one time two or more "longhouses," for here can be traced in long and irregular outline the situation of two at least. All that is left to show where these stood is the earth blackened by the hearth fires and enriched by the refuse of the camp.

*Known also as Attiwendonk, Atirhagenrenrets, Rhagenratka and Attionidarons. Parkman says "they and not the Eries, were the Kahkwes of Seneca tradition."

The superior fertility of the soil on these camp-rows affords foothold to many plants such as grow nowhere else within the area, juniper elsewhere having pre-

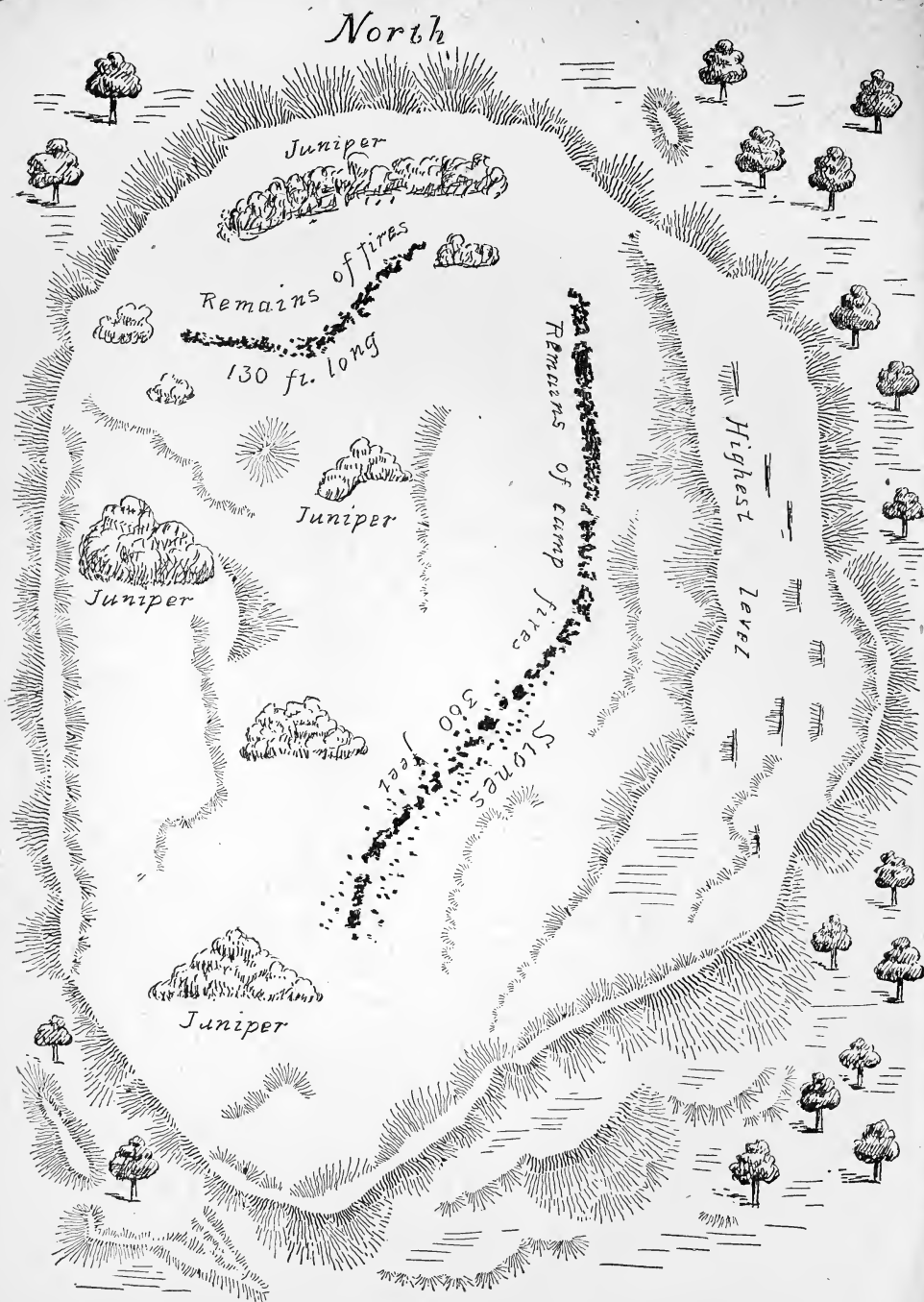
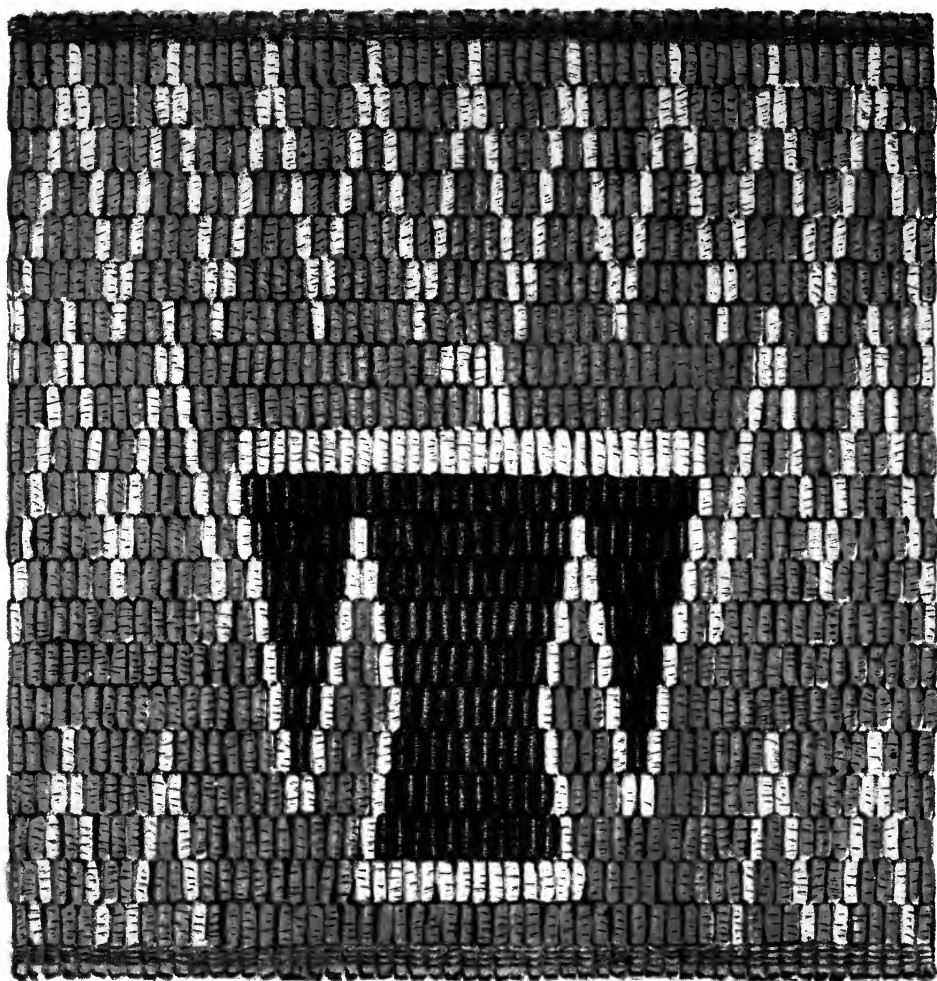


FIG. 3.—POINT ABINO VILLAGE SITE.

dominance. The smaller of the two camp-rows measured 130 feet as far as it





could be traced on account of overlying sand. It is situated at the northwest of the dune, and forms an obtuse angle, which is open to the same direction. The other one we found to be 360 feet long, and extending mainly from north to south, but turning towards the west and again south near the southern extremity. These measurements are not given as absolutely correct, but as the result of pacing by Mr. Bearss, and I feel sure that any variation from exactitude is under, rather than over the mark. Along the southern half of the longer site, there are many flat, water-worn stones from two to six inches in diameter. They lie scattered between the camp-row and the foot of the adjoining slope. It is difficult to account for the presence of these in such a place from any physical point of view, and there are none anywhere else on the dune. So far as observed they were free from any signs of use—none of them were notched, nor were any of the edges battered.

It is probable that these camp-rows are the longest that have been observed in this country, and few "longhouses" are known to have exceeded them anywhere else. Vanderdonk measured an Iroquois longhouse which he stated to be 540 feet in length, and Champlain says he saw some more than 180 feet long.* Dr. Dr. Parkman in referring to Vanderdonk's statement closes his sentence with a mark of exclamation, which may be interpreted to signify the historian's doubt. Perhaps, however, it is meant to signify only his wonder at the extraordinary length.

The Point Abino site was well chosen—high, dry, well-sheltered by the surrounding forest and capable of easy defence.

When in this neighborhood I was gratified to receive for the Institute a number of interesting specimens from Mr. Wm. Michener, one of the oldest living settlers, from Mr. A. E. Otway Page, and from our steadfast friend Mr. Cyrenius Bearss, who also in various other ways extended many courtesies.

PORCUPINE QUILL WORK.

Among the lost or almost lost arts of the Canadian Indian is that of employing porcupine quills as in the colored illustration. Partly on account of scarcity of material, but chiefly, it is likely, from change of habits and of taste, there are comparatively few Indian women now living who attempt to produce any fabric of this kind.

The method employed was to fasten closely together as a warp, a number of finely cut strips of leather. In the specimen here illustrated there were fifty-five such strips all neatly bound by means of a thread twisted from some vegetable fibre. The strips were then bound two and two, by means of porcupine quills wound four or five times round and fastened so ingeniously that even with a magnifying glass it is difficult to perceive how the work has been done. One row (say the top row in the plate) having been so formed, the next was commenced by binding the outer strip singly and thereafter taking one from each adjoining group of two above. In forming the third row the same strips would be bound as in the first row; and in the fourth as in the second, and so on. Meanwhile the pattern must have been clearly defined in the mind of the artist,

* Introduction to Jesuits in North America, p. xxvi.

for this is really a bit of artistic work, the purely ornamental portion of which speaks for itself both in color and design. The central figure demands a little attention. At first sight one would hardly recognize it as a bird—perhaps not even at second or third sight, but there can be no doubt that it is meant to represent the eagle or great Thunder-bird, the belief in which is, or was, widely spread among the Indians over the northern part of this continent. The only claim that can be made for this conception of the Thunder-bird is, that as nearly as possible it is symmetrical,—the method of working led to that. Only in the neck is anything out of place, and yet for this also the working method is responsible. When the row containing the head was being bound, the head was naturally placed in the very middle of the pattern, but in the next row, when the neck was reached it *had* to be placed at one side or the other, or it would have no resemblance to a bird's head at all.

This beautiful piece of quill-work was procured from Ek-wah-satch, who resides at Baptiste Lake. He informed me that it had belonged to his grandfather who resided near the Georgian Bay.

INVITATION QUILLS.

On the colored plate are also shown drawings of the “quills” used by the Indians of the North-west when sending invitations of different kinds to their friends for war, feasting, ceremonial or other purposes. Referring to these the Rev. Peter Jones says:—“A young man is generally sent as a messenger to invite the guests, who carries with him a bunch of colored quills or sticks about four inches long. On entering the wigwam he shouts out *Keweekomegoo*, that is ‘You are bidden to a feast!’ He then distributes the quills to such as are invited: these answer to white people’s invitation cards * * * * * they are of three colors, red, green, [blue?] and white; the red for the aged, or those of the *Wah-buhnoo* order; the green for the *media* order, and the white for the common people.”*

The quills illustrated were presented by Dr. P. E. Jones, and were brought by his father, the author above-mentioned from the North-west fifty years ago.

POTTERY.

In no class of work common to the aborigines of America is more difference observable than in pottery. Material, form and style of ornament (when there is any), vary considerably, and within certain limits one may distinguish even by means of a small fragment what is characteristic of certain areas. Our northern forms though frequently worthy of being pronounced “elegant” are generally less so than those of the country lying south and west of the Ohio. The material, too, is thicker and coarser, but the exterior markings exhibit an amount of taste that will compare favorably with the class of work produced by the southern peoples.

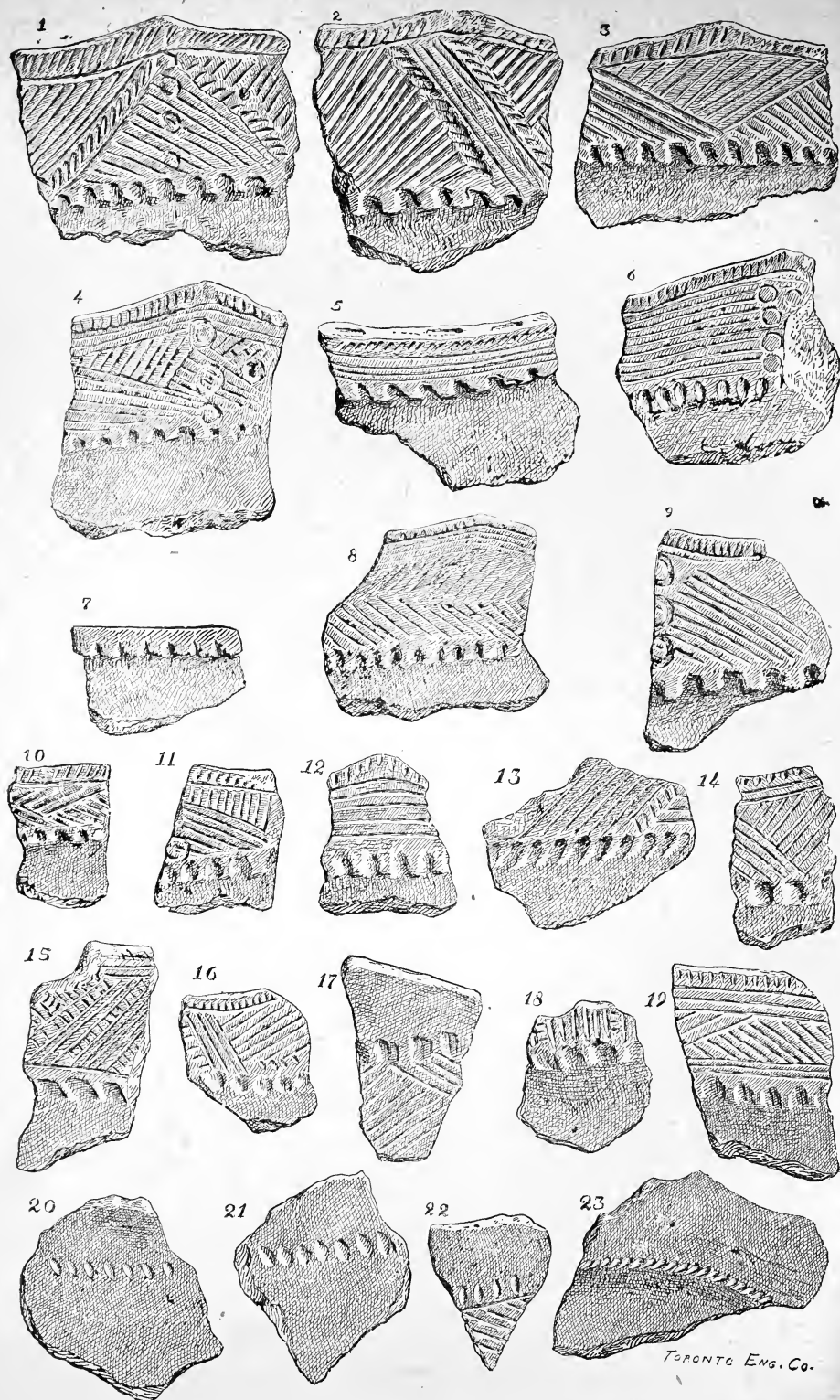
* History of the Ojebway Indians pp. 94-5—London, 1861.

Among Canadian Indians the making of pottery has, for probably two centuries at least, been a lost art. Pipe-making from clay seems to have lingered after the production of vessels had ceased, for these were among the first to be displaced by European art; in this case, that of the coppersmith. Dishes of clay varied in size from that of a wine-glass to thirty gallons in capacity. The former may have been but the playthings of children—the larger ones were used for various domestic purposes. Among the first evidences that present themselves in most cases in connection with the site of an ancient Iroquois or Huron-Iroquois village are numerous fragments of pottery, and occasionally the searcher is fortunate enough to procure a perfect or almost perfect specimen from one of the communal graves. In most cases the attempts at ornamentation have been confined to the outside of the vessel, but now and again an inch or even more on the inside of the lip has had a simple pattern impressed upon it.

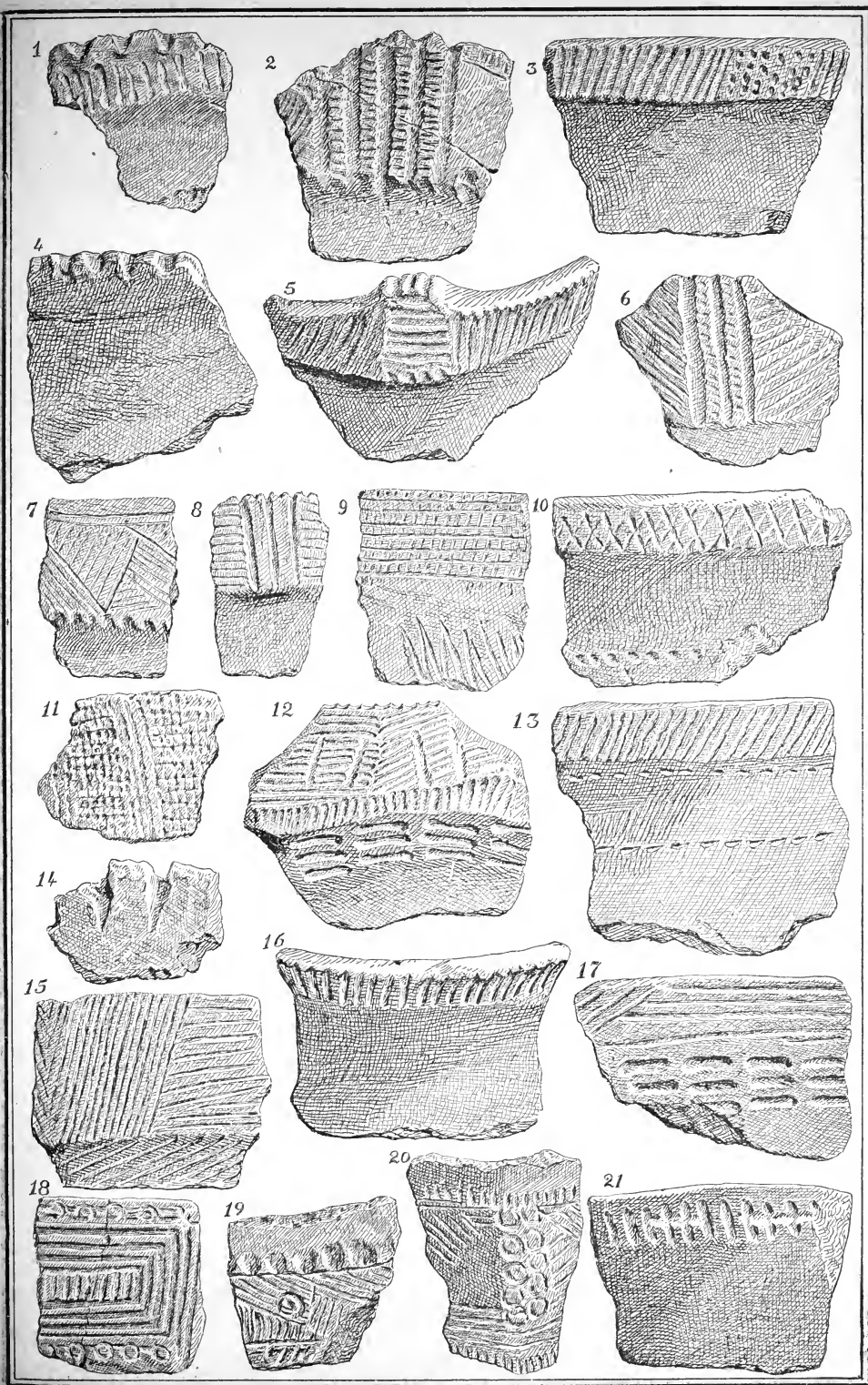
Among the numerous specimens from Balsam Lake in the Laidlaw collection there are several peculiarities to which some reference may be made. The deeply notched markings that in most cases surrounded the vessels, separating the ornamental upper portion from the plain part underneath (plate I.) have been made by a blunt, square-edged tool, and the lower edges of the separating bars have also been squared. The prevalence of this style is noteworthy, because not far to the west of Balsam Lake the corresponding portions of the patterns seem to have been crenated by simply pinching the clay between the finger and thumb—indeed, in a few instances, the marks of the finger-nails have been left. It will also be observed that the angle of all the square notches is in the same direction. It is seldom that any effort has been made to impress a pattern on the edge of a vessel, but we find an example of edge-markings on Fig. 5, where the depressions have been produced by means of a tool similar to the one that was used to make the short horizontal markings in Figs 12 and 17, plate II. A totally different kind of edge-ornamentation will be seen at Figs. 1, 2, 4, 5, 6, 8, and 14, plate II, where, in the last enumerated deep angular notches extend some distance down the side. In Figs. 13, 16, and 20 to 23 plate I, the band marks appear to have been made with the finger-tips.

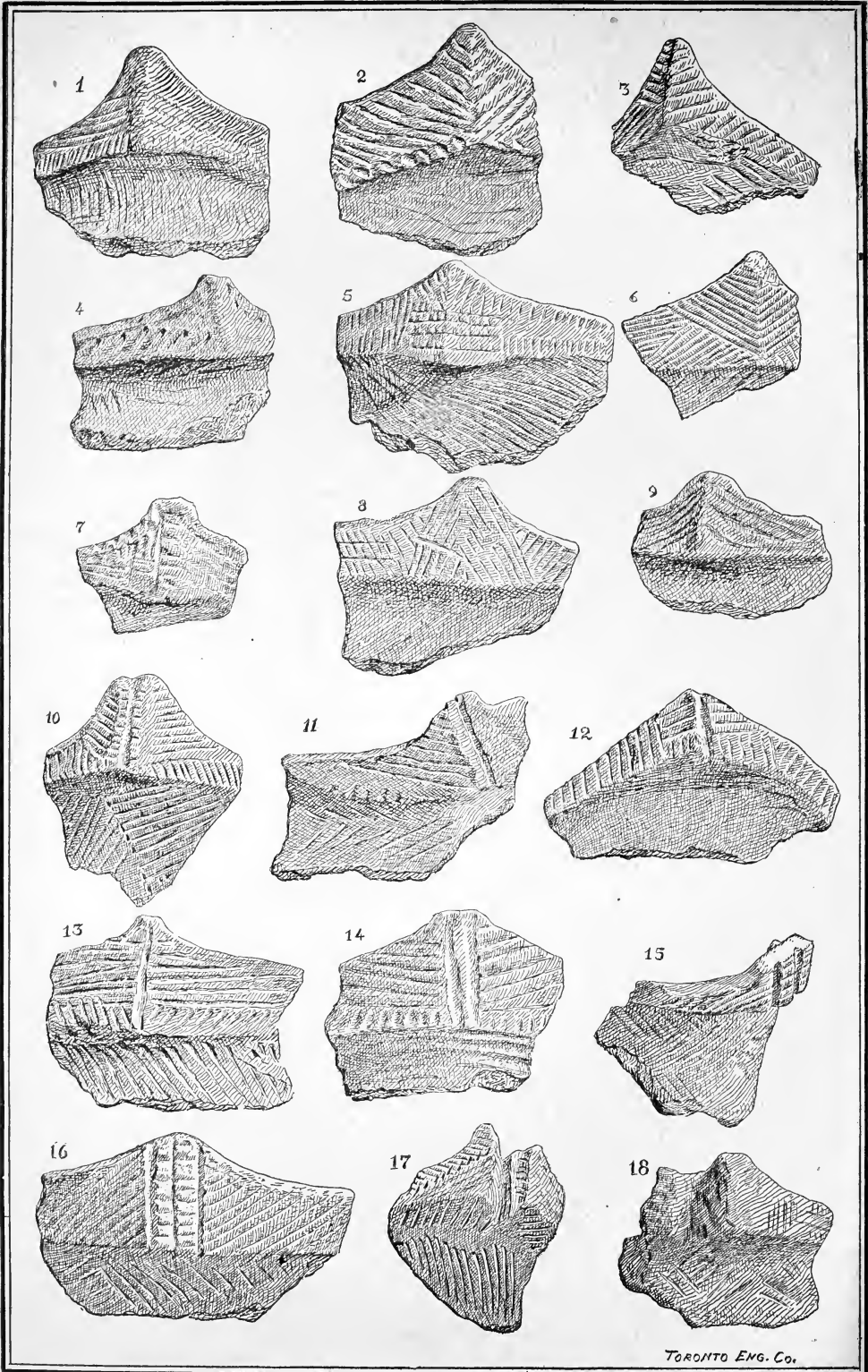
In plate II several characteristic patterns may be seen. Figs. 2 and 6 are peculiar, and Figs. 12 and 17 illustrate a style of marking not found elsewhere in Ontario, so far as I know, the short horizontal depressions being arranged in three's. The lining in Fig. 18 is of an unusual pattern. Unfortunately the fragment does not show the complete figure, but the missing portion probably corresponded in its angles with the part found.

Loops or lugs for lifting or suspending purposes are seldom found on clay vessels in Ontario, but upward projections on the lip are not uncommon, as in plate III, and these portions are generally made thicker than other parts of the margin. Sometimes the whole collar or upper part of the vessel here forms an unbroken angle on the outside as at Figs. 1 to 9, at other times this is relieved by a single groove, Figs. 10 to 13, or by two or more, as in Figs 14 and 16. In Figs. 17 and 18 deep notches occupy the places of the single grooves. On the larger vessels there may be as many as four of these projections, but on the smaller objects of this kind sometimes only one has been formed. On the whole of the Balsam Lake pottery there is a curious blending of the Huron with something that appears to be of a different origin.



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TORONTO ENG. CO.

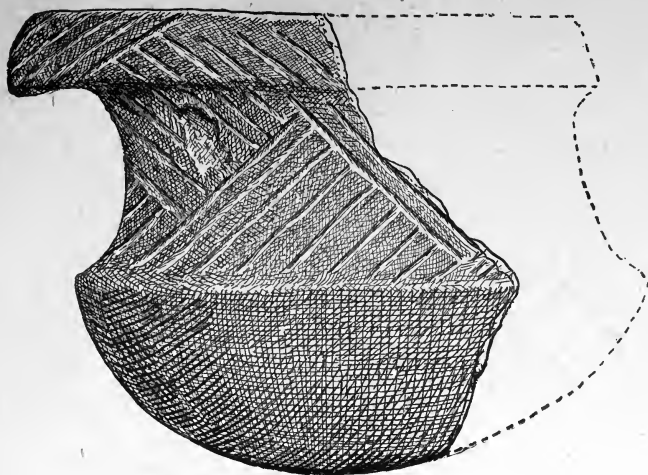


FIG. 66. (Half Size).

The difficulty of procuring whole specimens of pottery makes such a fragment as fig. 66 quite valuable, as it is sufficiently large to show the form of the original vessel—in this case, a very small one. Though found on the south half of lot 2 in the 3rd concession of Tuscarora now occupied by the Mississaugas, the cup of which fig. 66 represents a portion, was made and used by the Neuters or Attiwandarons who for centuries, perhaps, occupied this territory.

CLAY PIPES.

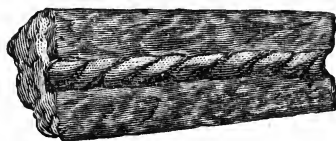


FIG. 67. (Full Size).

Considerable interest naturally attaches itself to aboriginal methods of working, one of which is beautifully exemplified in the accompanying figure. As makers of clay pipes the Indians of this part of the continent were as far ahead of many southern tribes as they were behind them in other branches of manufacture. The great length and curve of many pipe-stems rendered the making of holes by perforation an impossibility even when the clay was soft, and the ancient pipe-maker adopted the plan of forming the clay round a slender twig, which, being left in place, was thoroughly charred when the pipe was submitted to the burning process, thus leaving the hole clear. In moulding the pipe, of which fig. 67 was a portion, instead of a twig, two strands of grass or of some fibre have been twisted to form a stout cord for the purpose of making a stem core. This, like the twigs, has not been withdrawn after the clay was moulded about it, and as a result, we see in this split stem the spiral impressions of the old core cord. This specimen forms part of the Laidlaw collection.

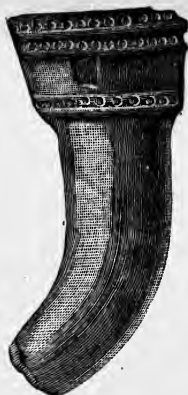


FIG. 68. (Half Size).

This gracefully formed pipe-head is from the vicinity of Midland city and our thanks are due to Mr. H. F. Switzer for it.



FIG. 69. (Full Size).

The pipe, of which figure 69 is a cut, is of a very unusual pattern. So almost infinite is the variety of forms given to clay pipes that one cannot fail to be struck with the absence of conventionality that characterizes their make as compared with the production of many other articles. The remaining portion of the bowl in fig. 69 shows that even when complete its capacity was not very great.

The lower side of the under jaw is hollowed in close imitation of nature. The stem is four-sided, each angle being crenated. Another pipe in the museum (S. 110.) from the same neighborhood, has an animal head of similar shape and side-markings, (See Fig. 8. Rep. of Canadian Institute for 1889). Fig. 69 is from the Melville Farm Nottawasaga.



FIG. 70. (Quarter Size).

The snake is frequently used as a device in the manufacture of Indian pipes. Fig. 70 shows the mouth-piece of a pipe-stem round which a snake has been represented as having coiled itself. Delicate markings imitate the scales.

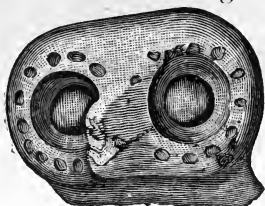


FIG. 71. (Full Size).

This owl's head formerly surmounted the lip of a Tobacco-nation pipe, part of the bowl-hollow remains at the back of the head. The beak has been well formed, and the eyes have been admirably imitated by means of depressions made with the end of a tube, leaving the eye-ball in strong relief. The dots surrounding the eye are not of usual occurrence, although in one of our specimens a series of scallops probably represents feathers.

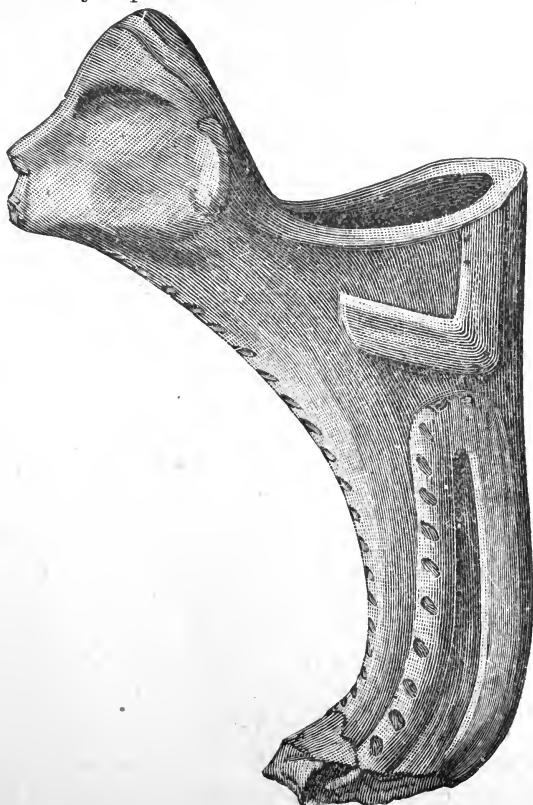


FIG. 72. (Full Size).

Fig. 72 is of a type represented by many fragmentary specimens in our collection. The design appears to have been a favorite one with the Tiononntates, and, so far as the face is concerned, seems to have been effected by pinching the clay with the fingers. In this, as in many others of its kind the right arm extends to the face. In a few cases both hands are made to reach to the mouth. The curved and projecting portions at the sides are no doubt meant for bent legs, the figure being in a sitting posture. From W. Melville, Nottawasaga.

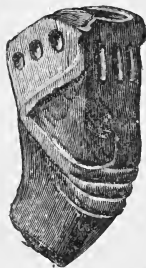


FIG. 73. (Half Size).

This is an oddity in pipes. It is likely that a head surmounted the edge of this bowl when new, but is now broken off and the fracture smoothly ground down. The arms and the peculiar position of the hands differ from anything else in our large collection of clay pipes. Three deep depressions are made lengthwise on the breast, and a row of smaller ones surround the rim. The fingers of the two hands do not meet as the cut would indicate. Geo. E. Laidlaw collection.



FIG. 74. (Half Size).

In this attempt to represent the human face the cheeks are brought out in bold relief—something seldom tried. As in most other cases, the ears are not taken into account at all. Geo. E. Laidlaw collection.



FIG. 75. (Full Size).

This mask is all that is left of a well formed pipe from the neighborhood of Midland city. The eyes and mouth are sunk unusually deep, but the teeth are not so prominent as the engraving would indicate. Mr. H. F. Switzer presented it to the museum.



FIG. 76. (Full Size).

In this specimen we have an ambitious attempt at originality as well as detail. Surrounding the hole that forms the eye a slight ridge has been moulded—nostrils have been at least indicated, and teeth are rudely represented where the lips should be. Two rows of small holes surround the face, while between these, round the forehead, there is a row of shallow notches. The chief peculiarity, however, consists in making one of the eye-holes large enough to form the bowl of the pipe. In another specimen belonging to us the mouth is made to serve a similar purpose. This curious specimen is from the farm of Mr. Thomas White, Nottawasaga.



FIG. 77. (Full Size).

The satanic-looking specimen figured above is from the same locality as fig. 76. It is even less symmetrical than the diagram shows. The eyes and lips are cleverly moulded and the ears seem to be purposely set at different angles to correspond with the expression of the eyes. At the back of the head is a projection nearly as prominent as the ears, and on each side of it, is a small hole not larger than the point of a lead pencil. The bars across the breast are as uncommon as the rest of the design, and resemble the markings on some of the Laidlaw pottery.



FIG. 78. (Full Size).

In figure 78 we have a good imitation of the very best Indian attempt I have seen, to represent the human face in clay. It is only a mask, but as such is perfect. The pipe-bowl of which it formed a part must have been a tolerably capacious one. Even as a fragment this specimen has been prized, for the broken edges are rubbed smoothly down, and one can only wonder that no hole is bored to hang it by. It was procured from Mr. Jos. W. Stewart, who reports that it was found "somewhere about Lake Simcoe."



FIG. 79. (Full Size).

Was the pipe, of which figure 79 represents a fragment, made before or after the French occupation of Canada? If made subsequently the hatted form may be regarded as an imitation of the white man, perhaps of a priest; but

if made previous to that time this imperfect relic gives us a glimpse of the native costume. The back of the specimen is also of a curious pattern, looking in some respects as if made to imitate a kind of cloak merging into arms at the shoulder and terminating in a cross bar at the lower end. A somewhat sharp angle forms the medial line along the back, and this is relieved with nine small, oval depressions. The face is graphically but not accurately modeled. The bowl was only about one inch deep and five-eighths of an inch in diameter. The stem-hole rose perpendicularly three-fourths of an inch in this pipe, before reaching the cavity that formed the bowl, and it is plain that the face was made to look towards the smoker.

STONE PIPES.

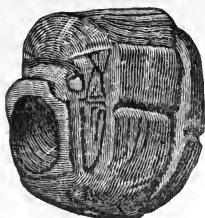


FIG. 80. (Full Size).

The small pipe here figured is made of greyish-blue slate, and was probably more for ornament than use, as the bowl-hole is scarcely half an inch in diameter and depth. A number of deeply cut notches have been made on the outside without any reference to design, the intention, no doubt, being to work the whole surface down smoothly to the depth of the notches. This is more evident at the back of the pipe-head than elsewhere. The stem hole is almost as large as the other. From South Yarmouth township, Elgin county, and now in the Dr. Tweedale collection.

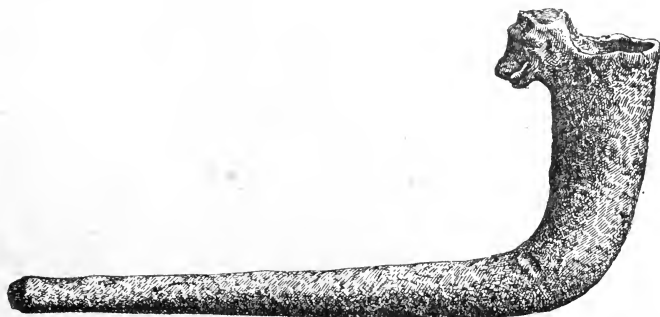


FIG. 81. (Quarter Size).

"White-stone" pipes are among the rarest of archaeological finds. There are only two in the museum, the one figured above being from the Lotteridge farm, near Hamilton, and the other, which is less perfect, from Lake Medad. Fig. 81, is $6\frac{1}{2}$ inches long, and almost perfect, though considerably weathered. On the Lake Medad specimen a human head surmounts the bowl.



FIG. 82. (Full Size).

This small steatite pipe must have served less for use than for ornament. The bowl is not more than half-an-inch wide or deep inside, and the stem-hole which enters from the breast is fully half as large. Fig. 82 is regarded as representing a duck. It is certainly intended for a bird, and a duck most probably. Through the lower back corner a small suspension hole is bored.

We have to thank Mr. J. W. Fitzgerald, of Parry Harbor, for this and other specimens.

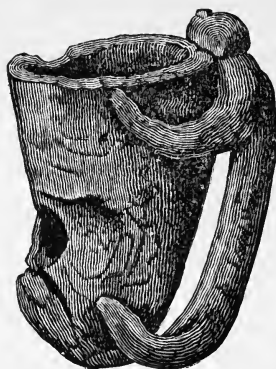


FIG. 83. (Full Size).

What may be called the "lizard" pipe is here figured. It is made of steatite and was found on lot 8, concession 6, Nelson township, County of Halton, by Mr. George D. Corrigan, who presented it to the museum. Both head and tail are damaged, but there is a little more of the latter and less of the former than is shown in the cut.



FIG. 84. (Quarter Size).

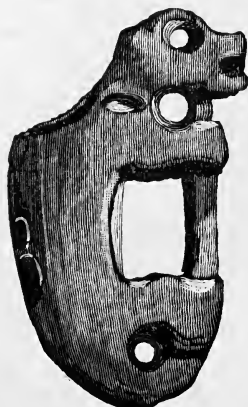


FIG. 85. (Quarter Size).

One of the finest stone pipes in the Prov. Arch. Museum is here figured. The material is steatite, and is dyed or stained a deep black. It is undoubtedly meant to represent a bear. Of the same class as the McCallum "monkey" pipe from Milton, it is much more highly finished, every part of it being carefully worked, and the whole of the surface having a high polish. The hind legs have been conventionalized to make them correspond with the front ones. A band-like depression is cut on the right and left sides of the neck as in the "monkey" pipe, and the "panther" pipe of the same type. Geo. E. Laidlaw collection.

Of the same type as the Laidlaw "bear" pipe, figure 84, is the pipe represented by Fig. 85, but much inferior to it in execution. As is the case with the "bear" and "monkey" pipes, this one, which has been called the "panther" pipe, is made of steatite. The ears in this specimen are delicately modeled, but in place of the eyes a hole has been bored clear through the head. The legs and paws are clumsily imitated, and the workmanship on the whole cannot be compared with that which characterizes the "bear" pipe. Two stem holes have been bored, one above the other. This apparently useless arrangement becomes easily understood when it is observed that the lower one, or the one first bored is so large ($\frac{5}{8}$ in. in diameter) that it would not always be easy to find a suitable stem; a smaller hole, less than $\frac{3}{8}$ in. in diameter has been made close above the former, which was no doubt plugged when the pipe was in use. The light marking on the neck is a groove, similar to those on the "monkey" and "bear" pipes, but for what purpose does not appear plain. The "panther" pipe was found in the township of Carden, not far from Balsam Lake, and is now in the G. E. Laidlaw collection.

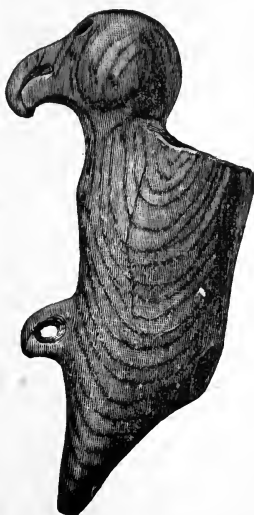


FIG. 86. (Quarter Size).

Another beautiful specimen of aboriginal workmanship is shown above. This "Eagle" pipe is made of a finely veined and close-grained piece of Huronian slate. The head and beak are remarkably well formed. The right and left talons are separated, and through both is a hole to aid in fastening the pipe-head to the

stem which entered from behind. The wings too, are clearly outlined, but they do not appear so in the engraving. The total length of this fine relic is five inches. It belongs to the Geo. E. Laidlaw collection.



FIG. 87. (Full Size).

Figure 87 is more odd than elegant. The stone is white steatite, but having a number of flaws. In cross-section at the top is nearly square, but the front side curves backwards to base. The stem-hole enters behind and a suspension hole passes through the lower corner. The head may be meant for either that of a man or of an owl. Presented by Mr. J. W. Fitzgerald, Parry Harbor.



FIG. 88. (Full Size).

The pipe of which Fig. 88 is but the ornamental part must have been a fine sample of aboriginal skill and taste. The material is argillite. The combination of heads is remarkable. Forehead, ears, eyes, nose and jaws in the dog's (?) are carefully worked out—much more so, indeed than in the human head, which is surmounted. Perhaps the idea of this design was drawn from the practice of wearing masks in some dances. As these masks, attached to the head, could be raised or pulled down, it is not improbable that the design was suggested in this way. From Mr. Angus Buie, Nottawasaga.



FIG. 89. (Full Size).

Fig. 89 is of a coarse soapstone and is considerably ruder and less marked in outline than the engraving would indicate. The position of the arms corresponds with what is found on clay pipes (see Fig. 72). The cavity is larger than usual in pipes of this kind, the wall of the bowl being thin. This pipe is from the Melville farm, Nottawasaga.

On the occasion of the Institute's meeting at Niagara last summer, the very singular stone pipe, of which views are shown (Figs. 90, 91 and 92), was presented to us by Mr. A. C. Billups, who stated that he had taken it from a mound on the Kentucky shore of the Ohio, not far from Lawrenceburg on the Indiana side. This portion of country is dotted with mounds. Along both banks of the Ohio and its tributaries, on many of the highest bluffs and some of the lower lands, mounds of various sizes may yet be seen. Not far away from where this pipe was found is Fort Hill, a celebrated ancient earthwork, near the junction of the Big Miami with the Ohio. When I had the pleasure of examining this extensive "fort" two years ago in company with Dr. Collins, of Lawrenceburg, evidences of a numerous, industrious and intelligent population were everywhere apparent. Remains of paved ways could be traced on easy grades and round gentle curves on two opposite sides of the large embankments, and no better place could have been chosen for defensive purposes. It is not improbable that the people who constructed these and other works of a similar kind in this locality were those who made the Billups pipe, for the depth at which it was found precludes any supposition that it was intrusive.

The stone is a light brown argillite, and has been found in pebble form by the pipe-maker. An ingenious as well as a humorous side to the Indian character is brought out in the adaptation of the design to the natural form of the pebble. Symmetry having been impossible without cutting away too much material, the workman contrived to produce from the somewhat plano-convex form still observable in the front view, a gruesome, wry face, full of character, and having the details artistically treated.

One peculiarity of this pipe is in the formation of the eyeballs which are like cylinders, half-sunk diagonally, with the flat ends facing the left side, giving the countenance much of its wild expression. Nose, cheeks and eye-brows have been

carefully carved, but the mouth and chin are less successfully imitated. In combination with the head are the stem of a tree, and a snake, the head of the latter being at the base of the carving, from which point the body rises with a graceful curve to the left, half-way up the bowl, when it descends, passing under the chin and up the opposite or right cheek, the tail terminating almost in the middle of the pipe at the back. (Fig. 92).

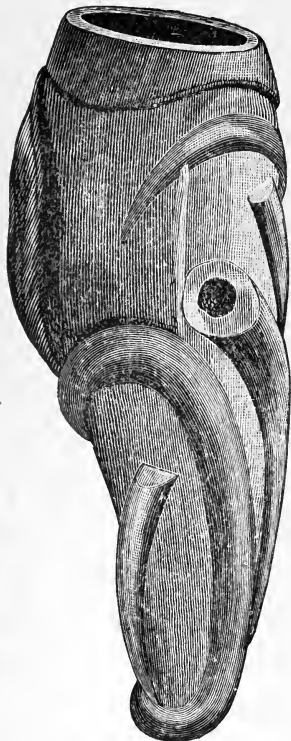


FIG. 90.



FIG. 91. (Full Size).



FIG. 92. (Full Size.)

What seems to be a tree stem also originates in the lower part of the neck, one small branch curving gently up the left side, while the main portion stretches up the right side, becoming forked about two-thirds of the distance from the bottom. The left and thicker division terminates at the back where it is cut off smoothly, and through this termination the stem-hole is bored. Taken altogether the work on this pipe is remarkably well done, one is almost tempted to say, suspiciously so; but there seems to be no reason to doubt its genuineness. In the curious combination of tree and serpent, theory-maniacs may easily find material either for attributing to it a spurious origin, or for the elaboration of some far-fetched arguments to prove a traditional connection with an older and higher civilization, if, indeed, the term civilization should be appropriate to the mode of life connected with which the Kentucky pipe was modeled.

HAMMER STONES.



FIG. 93. (Full Size).

The specimen represented here is a granite pebble symmetrically water-worn and roughly pecked on its upper and lower sides with only a few recent dents on the edge. It has perhaps been used either as a hammer, or as an anvil. Possibly the pecking has been preparatory to finishing as a disk, many specimens of which are hollowed on the sides. It is probable, however, that the former is the correct supposition although most hammer-stones have been used to strike with the edge. This specimen was presented by Dr. Craig of Lawrenceburg, Ind.



FIG. 94. (Full Size).

Hammer stones, as such do not always suggest their use, because many were simply held in the hand, but anybody would at once name figure 94 as an implement of this kind. The groove, of course, suggests a handle, and both faces bear marks of usage—the upper one as if for striking, and the lower one as if for rubbing or grinding. The material is a grey granite. Above the groove, the outline is oval; beneath the groove it is quadrangular—Township of Nottawasaga.

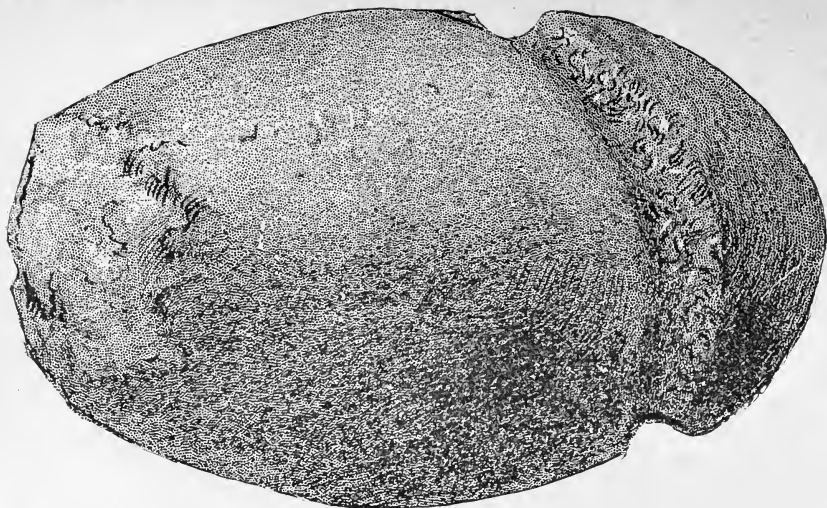


FIG. 95. (Quarter Size).

Another unmistakeable hammer is figured here. It was found near Leamington, in the county of Essex, and consists of a large silicious pebble six and three-fourth inches in length, and four and three-fourth inches across the widest part. The groove which is about one-third of the length from the top, goes *almost* completely round. The larger end or "face" shows that it has been used to do some very effective pounding.

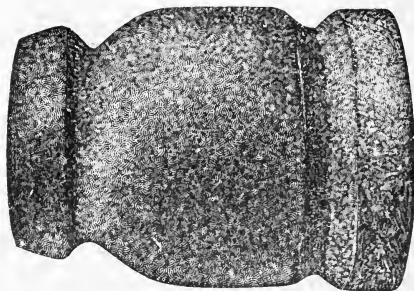


FIG. 96. (Over Quarter Size).

This unusually hammer-like tool is a puzzle. That it was not intended for a hammer is made evident from the fact that a hole is bored in the centre of the larger face. In cross section it is almost perfectly round—the sharp and deeply-cut grooves, though not quite true show no tool-marks, and the general finish is good. It is three and a quarter inches long, with a diameter in the middle of two and a half inches—Geo. E. Laidlaw collection.

GAME DISK.

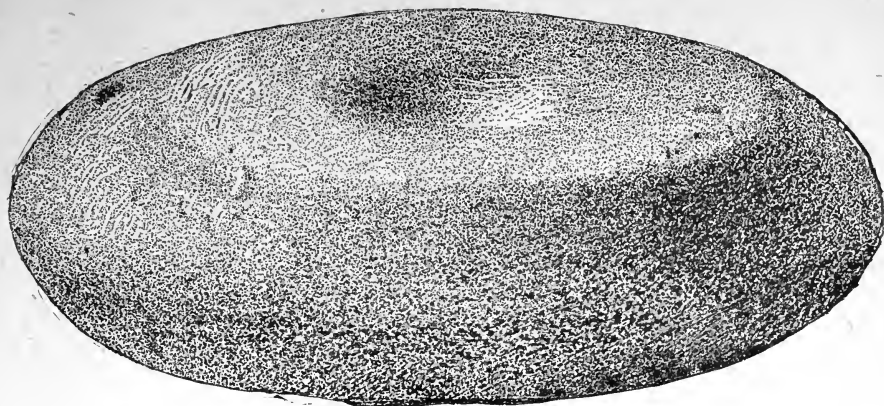


FIG. 97. (Full Size).

Similar in appearance as this specimen is in the engraving to fig. 93, it is totally different in all but outline. Like fig. 93 it is water-worn and oval, but the material and its treatment are quite unlike those of the former. In this case the stone is calcareous, and the two sides have been rubbed down until they are concave instead of convex, and in the centre of each hollow a deeper one is sunk about one-fourth of an inch and nearly a whole inch in diameter. Nearly all signs of pecking have been removed in the rubbing process. As the material is too soft to be used for a hammer the production of a disk was probably in view. We are indebted to Mr. Moses Barrowman of Buffalo, for this specimen, from the State of New York.

FIGURED TOOL.

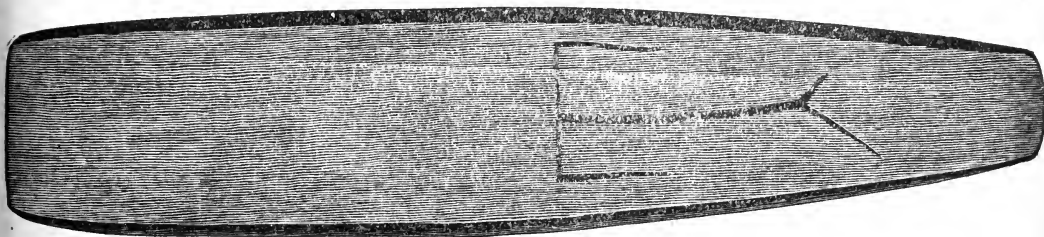


FIG. 98. (Quarter Size).

This figure represents an implement of brown slate about half an inch thick in the middle, and thinning towards the ends both of which are sharpened. It is the only article of the kind we have on which any figure is cut. The T like mark has some resemblance to the conventional representations of men made by some western tribes at the present day. It was procured from Mr. Jos. W. Stewart, and was found near Arkona.

FLAKED STONES.



FIG. 99. (Full Size).

Grassy Point near the western end of Baptiste Lake is the site of an ancient Algonquin village. Many fragments of pottery still lie scattered about the beach; and it was here that the perforated copper knife presented to us by Mr. Alex. Robertson was found. Fig. 99 is a good picture of a roughly chipped piece of pure quartz, from the same spot. It is turtle-shaped and has been flaked lengthwise. Quartz specimens of any kind are rare in Ontario. It is impossible to say with certainty what was the purpose of this object, but in all probability it was intended for personal ornamentation.

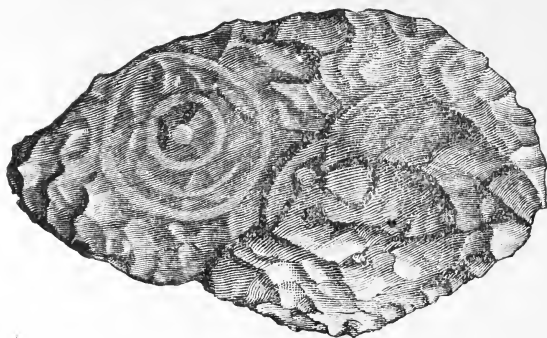
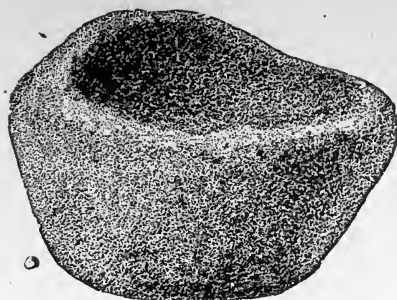


FIG. 100. (Quarter Size).

Fig. 100 represents one of several large flaked implements in the museum from Wolfe Island, opposite Kingston. It is too large and too roughly shaped for use as a spear, but may have served as an axe. It strongly resembles specimens found to the south, that seem to have been formed for digging, but there are no indications on the surface of this tool that it was ever so employed. Aside from its considerable size it is remarkable in showing a nucleus fully two inches in diameter.

STONE CUP.



101. (Full Size).

Figure 101 represents what is commonly known as a paint-cup. It is neatly hollowed, has a flat bottom, and is made from some kind of primitive rock. In the G. E. Laidlaw collection.

AMULETS OR GORGETS.



FIG. 102. (Quarter Size).

This gorget or amulet of Huronian slate, from the Tweeddale collection is one of the finest in the museum. It is four and five-eighth inches long and handsomely veined. What may be called the lower side is not so well finished as the other. Unlike many objects of this class the hole shows signs of wear, the upper side of it being perceptibly the smoother. The flanges at the lower end are peculiar to this specimen. It was found in the township of South Yarmouth, county of Elgin.

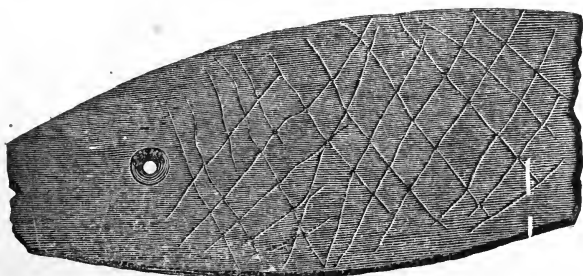


FIG. 103. (Quarter Size).

When perfect this gorget could not have been less than seven and a half, or eight inches long. It is of a dark colored argillite resembling a common school-

slate. At the small end, one-half of a small hole remains showing that the specimen at one time extended farther in this direction, as well as towards the roughly fractured end. The small end is ground down from both sides to a cutting edge. The chief peculiarity of this specimen consists in the number of carelessly cut diagonal lines, on both sides. Almost invariably articles of this kind are perfectly free from markings. Locality, Nottawasaga. From the brothers W. and D. Melville.

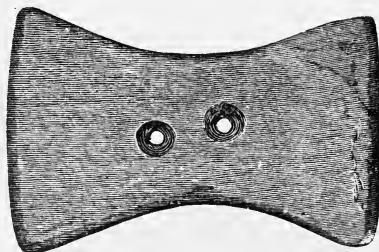


FIG. 104. (Quarter Size).

The gorget (fig 104) is a good specimen of its class, but unlike most others the slate is unpolished on the one side—perhaps it is unfinished. Most of the boring has been done from the rough side, only enough to clean the margin of the holes having been done from the smoothed side. The inward side-curves are unusually deep.—G. E. Laidlaw collection.

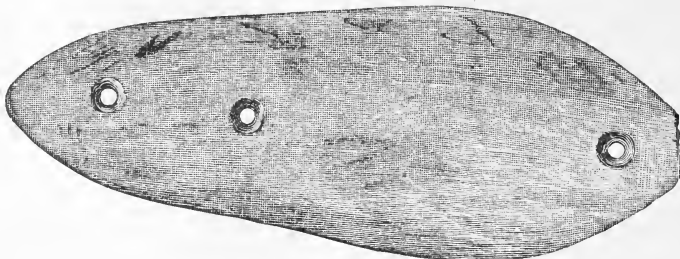


FIG. 105. (Quarter Size).

This gracefully formed gorget is in the Laidlaw collection. It is made of grey slate, and with the exception of a small piece broken off the larger end it is perfect. The holes exhibit no signs of wear.

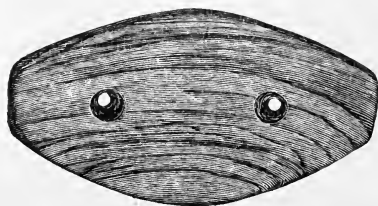


FIG. 106. (Quarter Size).

The peculiarity of this gorget is that it is concavo-convex, but whether made so purposely, or on account of the original rough shape of the slate is not certain

The holes have been bored entirely from the convex side shown above.—Geo. E. Laidlaw collection.

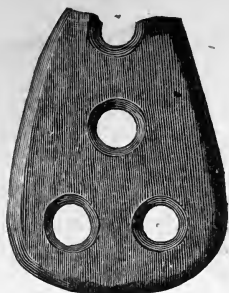


FIG. 107. (Nearly Full Size).

Many specimens of aboriginal "jewelry" owe their shapes to the natural forms of the material when found. This is especially true of articles made from pebbles. Fig. 107 is a case in point. It is a pebble of fine sand-stone, the pendant shape of which caught the eye, and the workman has proceeded to adapt it to his fancy by boring holes in it. Examination shows that the smaller end broke just before the boring of the last hole was completed. The Indian's lack of prescience is shown by his leaving the boring of the most difficult hole till the last, having even countersunk the others previously. Fig. 107 is from the town of North Yarmouth, and belongs to the Dr. Tweedale collection.

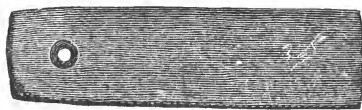


FIG. 108. (Quarter Size).

Figure 108 shows one of the plainest and neatest specimens of its class in the museum. One side is straight, the other a little rounded from end to end, both edges are almost straight and nearly parallel, the width at the larger end being exactly one inch, and at the holed end a little over seven-eighths of an inch. Its greatest thickness (in the middle) is five-sixteenths of an inch. From North Yarmouth township, Elgin county. Dr. Tweedale collection.

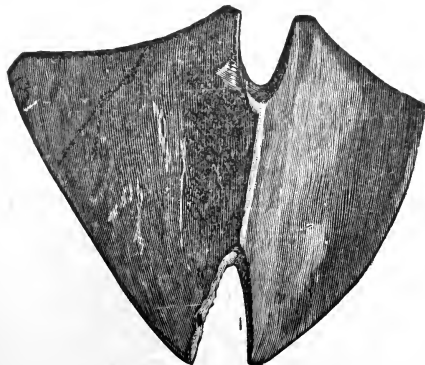


FIG. 116. (Quarter Size).

As a rule, relics of this type are symmetrical. Fig. 116 is an exception. The stone is Huronian slate. The hole has been bored before the notches were cut

above and below. It was found by Mr. Chance in Markham township, and now forms part of the G. E. Laidlaw collection.



FIG. 117. (Quarter Size).

This diagram represents what is the largest, and, it may be added, the coarsest specimen of its kind in the museum. To the credit of the Indian artificer, however, it may be stated that his work is still incomplete—scarcely more than blocked out, in fact, but none the less valuable on that account. It is five and a quarter inches long, and of Huronian slate. The base is almost in its rough state, and no attempt has been made to bore the fore and aft holes that are almost invariably found in specimens of this type. In the Dr. Tweeddale collection; from White's Mills, county of Elgin.

STONE CARVING.



FIG. 109. (Full Size).

The specimen of which figure 109 is a cut was presented by Mr. J. W. Fitzgerald of Parry Sound. The material is gypsum, of a light pink color. According to the best of Mr. Fitzgerald's recollection it was found near Lindsay. The carving is fairly good. Behind the figure a beginning has been made on each side in boring a hole through the piece.

DISKS.



FIG. 110.



FIG. 111.

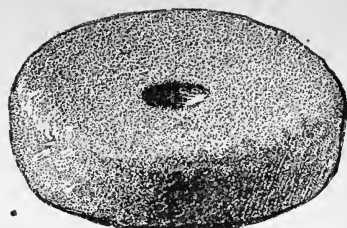


FIG. 112.

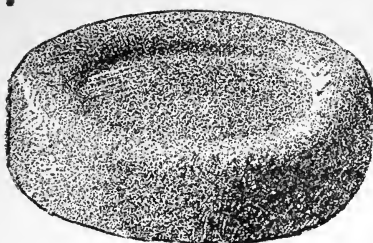


FIG. 113.

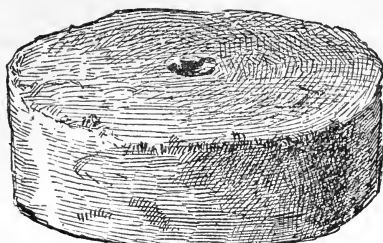


FIG. 114.

Disks of pottery and stone, like those shown in figures 110 to 113, were used in different ways. The smaller ones (figs. 110 and 111) may have been ornamental, as for beads, while it is known that the larger ones (figs. 112, 113) were used in a game. Figure 114 is from Hawaii, where it was employed by the natives in a game called Naika (Nah-eek-ah,) being rolled along the ground as in what was a favorite Indian pastime. It is introduced here merely for comparison. A hole is shown in the centre, by mistake of the engraver.

TOTEM.

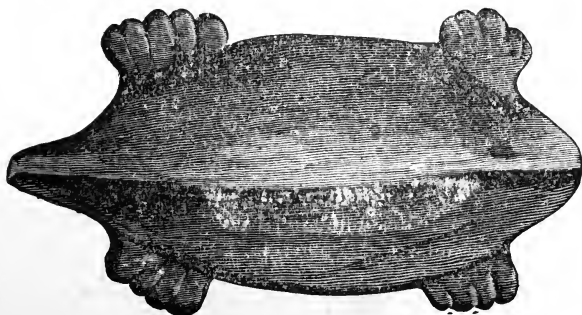


FIG. 115. (Full Size).

There can be little doubt that figure 115 was intended to represent a totem, and that totem, a turtle. Unfortunately both head and tail are damaged, but

the general outline is a fairly good imitation of the animal, although the ancient artist had but little regard for the necessary number of toes. The turtle totem is made of fine-grained sandstone, was found in South Yarmouth township, and is part of the Dr. Tweedale collection.

SLICK STONE.

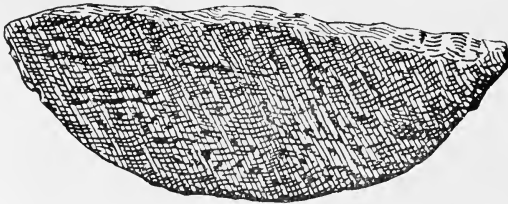


FIG. 118. (Quarter Size).

Fig. 118 represents what may be called a scraper. The round edge is sharp, and the upper one ragged as if broken. It was found on the village site at Logan's Hill in Victoria county.

SHELL.

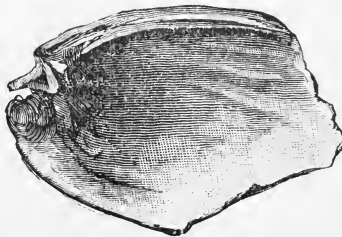


FIG. 119. (Half Size).

The common unio or fresh-water mussel shell was employed by the Indians for several purposes after the contents had been eaten. Near the Atlantic a species known as the *quahog* afforded material for wampum, but the supply of shell for our more westerly tribes seems to have been brought up the Mississippi valley from the gulf coast. In some places considerable numbers of mussel shells are found with other remains in heaps corresponding to the European "Kitchen-middens."

A common use for these shells was that of scrapers in different kinds of handicraft. The worn edge in figure 119 indicates its employment by a left-handed person. From the Clearville village site, Kent county.



FIG. 120. (Half Size).

Fig. 120 is also from the Clearville village site and shows how the wearing of the edge would be produced by a person using the right hand.

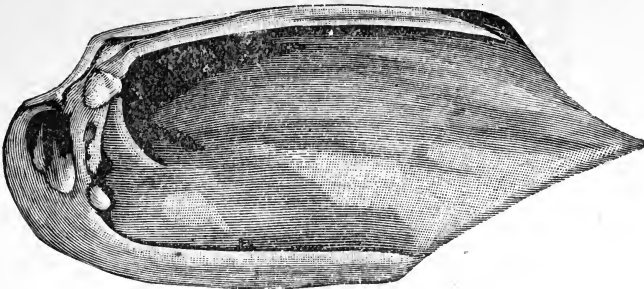


FIG. 121. (Full Size).

From the above figure it may be concluded that the user employed both hands alternately. This excellent specimen is from Fairchild's Creek, and was presented to us by Mr. E. C. Waters, Brantford.

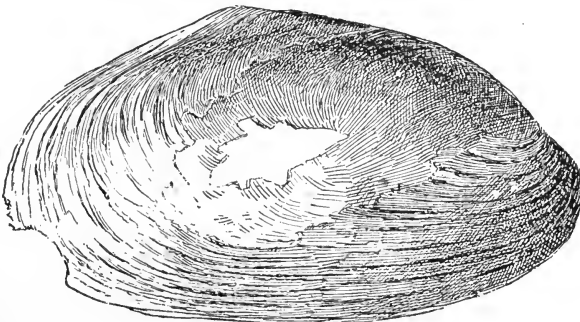


FIG. 122. (Half Size).

Fig. 122 is from the same locality, and was presented by Mr. E. C. Waters, of Brantford. The whole of the outer coating is worn off—indeed the body of the shell itself has been rubbed down until a hole has been produced. Messrs. Waters and Heath are of opinion that specimens of this sort have been used for smoothing the inside of clay vessels, when in process of being manufactured, and that this, or some similar use, accounts for the condition of such specimens. They are probably correct in this supposition.

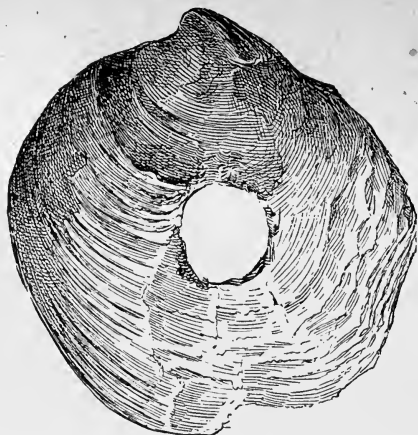


FIG. 123. (Half Size).

In Ohio many strong unio shells are found punched as shown above. The belief is that the purpose was to afford a means of lashing a handle to the upper or hinge edge, by passing a cord or thong through the hole and diagonally over and around the haft. What the use of such a tool could be we are left to imagine.

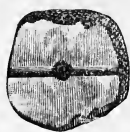


FIG. 124. (Full Size).



FIG. 125. (Full Size).

Figs. 124 and 125 represent the obverse and reverse of an unfinished piece of wampum, which was found in an ossuary in Beverly township. The process employed may be traced in this specimen, where only part of the rounding has been done, and only half of the hole has been bored. Many years after the settlement of America by Europeans, the Indians clung tenaciously to wampum, preferring it to metallic coin. In course of time, wampum was produced in large quantities by the whites for trading purposes, and the use of it as a currency was legalised. About the beginning of the present century, Canadian Indians refused any other "coin." *

* From the Provincial Statutes of Lower Canada, Georgii III, 1792, His Excellency the Right Honorable Guy Lord Dorchester, Governor, being the First Session of the First Provincial Parliament of Lower Canada.

"An Act to permit the importation of wampum, from the neighboring States by the inland communication of Lake Champlain, and the River Richelieu or Sorel.

"Whereas the article of Wampum in the form of Beeds, moons or shells and hair pipes, is indispensably necessary in the Indian Trade carried on from this Province to the Western Country; and Whereas the said Articles of Wampum in the form of Beads, Moons or Shells not being the product or manufactory of any part of the British Dominions, can only be had from the neighboring States, of which it is the product, Be it therefore enacted by the King's most Excellent Majesty, by and with the Advice and Consent of the Legislative Council and the Assembly of Lower Canada, constituted and assembled by virtue of and under the authority of an Act passed in the Parliament of Great Britain, intituled "An Act to repeal certain parts of an Act passed in the fourteenth year of His Majesty's Reign," intituled "An Act making more effectual Provision for the Government of the Province of Quebec, in North America, and to make further provision for the Government of the said Province." That from and after the publication of this Act, it shall be lawful to His Majesty's subjects to import from the Neighboring States, by the Inland communication of Lake Champlain and the River Richelieu or Sorel, the article of Wampum, in the form of Beeds, Moons or Shells, Hair pipes of such nature and kind as are used in the Indian Trade to the Western Country."



FIG. 126. (Full Size).

The collumella of large shells was often formed into beads and pendants. Fig. 126 shows one of many specimens found in an ossuary in Beverly, and which is perforated at each end for suspensory purposes. Sometimes this part of the shell was also made into a variety of wampum.



FIG. 127. (Quarter Size).

The specimen of which the above is a diagram was found with several other shell articles in a grave on the east side of Blackfriars Bridge, London, Ont., by a Mr. John McDowell, in the year 1849. The other objects were, as in this case, made from the material of a sub-tropical shell of large size. It is not probable that figure 124 served any other purpose than that of a gorget, and as such, or, indeed, in any capacity, it must have possessed great value on account of the distance from which the material was brought, and its corresponding scarcity in this part of the continent. No engraved shell objects are, so far as known to me, found in Ontario.

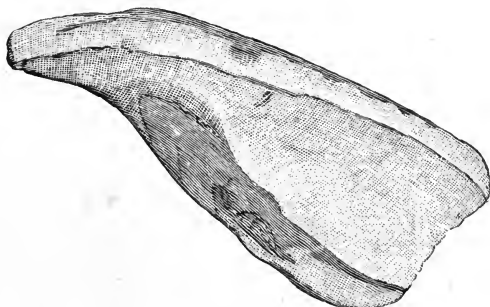


FIG. 128. (One-third Size).

Among the specimens procured from Mr. J. Y. Connell, of Nevis, West Indies, are two small gouge-like implements, made from a heavy uni-valve. Fig. 128 represents one of these tools. At the curve it is fully an inch in thickness. The hollowed form is probably the result of necessity arising from the nature of the material, rather than of intention or desire on the part of the maker to produce it. Still, it may have served a purpose similar to that for which stone gouges were made by the natives in this part of America.

BONE.



FIG. 129. (Seven-eighth Size).



FIG. 130. (Seven-eighth Size).

Both of these specimens form part of the W. G. Long collection, which is unusually rich in bone implements, a branch of industry apparently in great favour among the people who occupied the area now included in the townships of York, Vaughan, Markham and Whitchurch. Most of the objects of this sort in the Long collection are of the common kind, varying from one and a-half to seven inches in length. Any kind of ornamentation on such objects is of rare occurrence, but figures 129 and 130 are notable exceptions. They were probably used as fastening pins for clothing, rather than as awls or needles. Fig. 130 is worn very smooth on one side, and is notched for suspension or attachment at the head. Fig. 129 seems to be specially well adapted to pinning purposes.

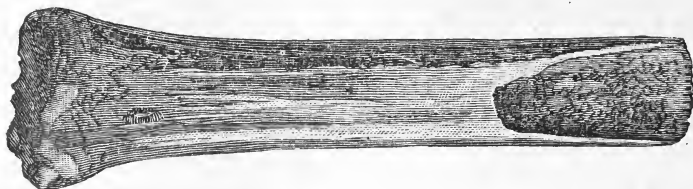
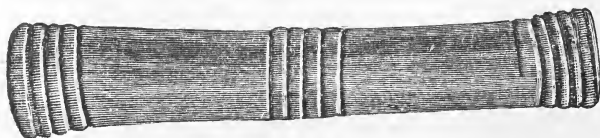


FIG. 131. (Quarter Size).

The similarity of this bone tool to those still employed in the North-West in the dressing of skins, is strong, even to the toothed edge. No smoothing by friction has been done on this specimen, and the tool marks are quite plain.—Geo. E. Laidlaw collection.

FIG. 132. (Full Size, 5 $\frac{3}{4}$ in.)

The purpose of Figure 132 may not be easily divined. It is made from the leg-bone of a deer, probably. The surface is highly polished, and the rings—five in the middle and four at each end—are rudely cut.

The supposition that it may have been used as the handle or hand-piece to a string for carrying weights, receives some force from the fact that the inner edge of one end is worn round and smooth, just as it would be if employed in this way.

It is quite as likely, however, that it was simply worn on a string passing round the neck. The inside of the other end is too much weathered to offer much evidence, but even there are indications of similar wear. Fig. 132 is part of Mr. W. G. Long's find in the county of York.



FIG. 133. (One-third Size).

One of three similar specimens found on the Baptiste Farm, Tuscarora, is figured here. They are simply the "wish-bones" of large fowls, having a small hole drilled through the broadest and thinnest portion of one side, but that side opposite to the one shown in the engraving. An Indian woman, who was standing by when these were dug up, immediately stated that she had heard some old people speak of lines being twisted from basswood bark by means of, or with the assistance of such things, but she was unable to explain how they were used.

OJIBWAY GAME.

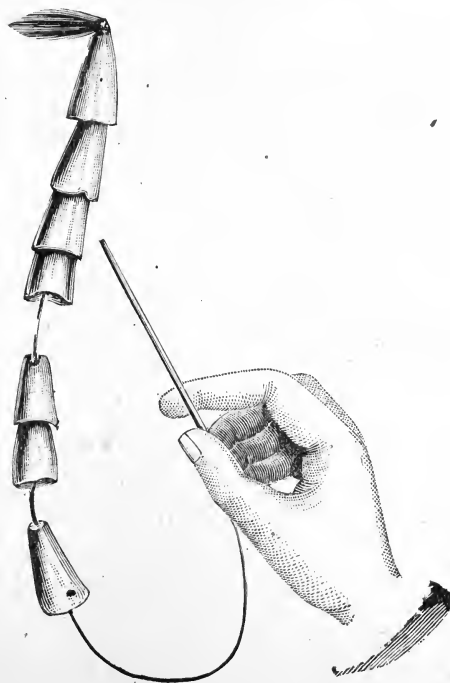


FIG. 134.

In Figure 134 is represented an old Ojibway game played for gambling purposes, as, indeed, most Indian games were. It consists of seven conical bones

strung on a leather thong about eight inches long, which has fastened to it at one end a small piece of fur, and at the other a hickory pin three and a-half inches long. The game was played by catching the pin near the head, swinging the bones upwards, and trying to insert the point of the pin into one of them before they descended. Each bone is said to have possessed a value of its own; the highest value being placed on the lowest bone, or the one nearest to the hand in playing. This bone has also three holes near the wide end, and to insert the pin into any of these entitled the player to an extra number of points. Above each hole is a series of notches numbering respectively four, six and nine, which were, presumably, the values attached.

This game is mentioned by the Rev. Peter Jones (Kah-ke-wa-quo-na-by) in his book on the Ojibway Indians, but no name is given to it.* Dr. P. E. Jones, his son, has the only other specimen I have ever seen. The one in our possession was presented by Mr. J. Wood, an intelligent and influential member of the Mississauga band, near Hagersville.

HORN.

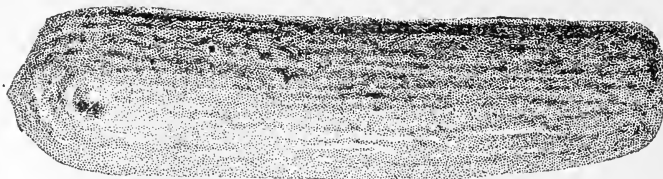


FIG. 135. (Quarter Size).

Deer-horn was either not much used in the making of implements, or its liability to speedy decay is accountable for the few specimens of this material found on the surface or in graves. The relic shown in figure 135 was probably used in skinning. The cutting edge is damaged, and the whole specimen is considerably weathered. The hole shows us that it was carried on the person.—Geo. E. Laidlaw collection.



FIG. 136. (One-third Size).

* Since this was written, I have been informed by Kah-ke-wa-quo-na-by, junior, the respected government chief of the New Credit Mississaugas, that the game was called "Pe-peng-gun-e-gun," which may be interpreted to mean, he says, "Stabbing a hollow bone."

This is one of several specimens presented by Mr. James S. Heath, of Brantford. It is the greater part of a small deer-horn, from which the upper prongs have been half cut and half broken. A hole, as seen in the diagram, has been made at the base of the lowest prong. Messrs. Heath and Waters, who are both ardent archæological students, call specimens of this kind "arrow-straighteners." With first-class mechanical eyes they detected the peculiar obliquity and wear of the hole, and concluded that the purpose of the tool was to act as a "pinch" in taking any bend out of arrow-shafts, either when newly made, or as the result of seasoning. I have recently seen an account of some Pacific slope Indians who make use of a wooden tool on the very same principle, thus confirming the view taken by Messrs. Heath and Waters.

UNFINISHED RELICS.

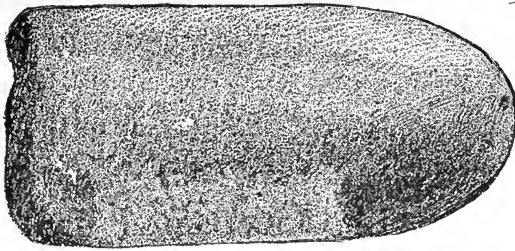


FIG. 137. (Quarter Size).

In the specimen figured here, we have a capital illustration of one of the first steps taken to reduce rough material to a desired form. The natural shape of the stone has suggested a use, but one edge has not corresponded with the other, having been somewhat rounder. To reduce it to symmetry the pecking process has been carried on until a closer similarity is the result, but here the process ends. Every other portion of the stone is in its original condition. This plain but instructive relic we owe to Dr. Craig, of Lawrenceburg, Indiana. As a Canadian, and an archæologist, Dr. Craig takes a deep interest in the Provincial Archæological Museum.

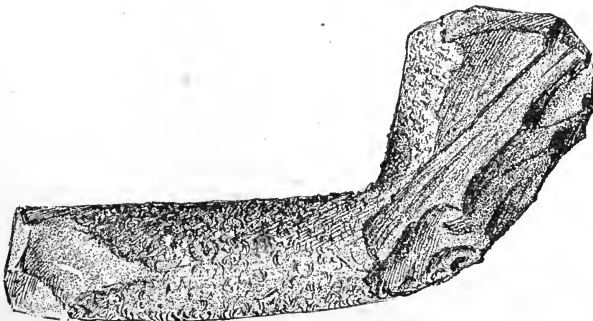


FIG. 138. (Quarter Size).

Unfinished objects frequently possess interesting features. In figure 138 from the Baby* farm the pecking process used to reduce the material to rough form is

well illustrated. By some accident the block has been rendered useless, and while we may for this reason regret the loss of a good slate pipe, we are indebted to it for an instructive example of the laborious methods that had to be employed by the ancient workmen.



FIG. 139. (Quarter Size).

Though also blocked out for a pipe, the above is totally unlike figure 138 in material and treatment. This specimen is of a coarse crystalline limestone with a considerable admixture of fine particles of mica. No untoward event to the block has hindered the completion of the pipe, but something of the sort may have happened to the maker himself. The bowl is bored an inch and a quarter deep, and a start has been made in boring the stem. The hole in the bowl is barely three-eighth in. in diameter, and the intention must have been to "rim" it out at least an inch, as the material is here an inch-and-a-half thick. Fig. 139 was found in the township of Tuscarora, and presented to the museum by Mr. J. H. Crouse, of Brantford. Other excellent articles from Mr. Crouse will be referred to in our next report.

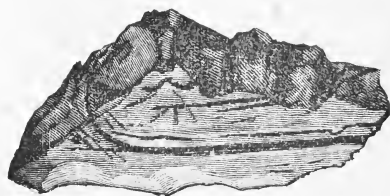


FIG. 140. (Quarter Size).

Here we have again illustrated some methods of working. The stone has first been rubbed down on its two opposite sides until it is about an inch and a quarter thick. On both of these the outline of the pipe has been "scribed" and deeply grooved with flint-flakes. A deep rut has also been cut lengthwise on the underside of what was intended for the stem to prevent chipping from extending too far, as well as to present an angle for starting chips outwards. This part of the work has been completed, and the base of the grove remains to show how the work was done. On the upper side of the stem, as may be seen from the engraving, cross notches have been sawn deeply to permit of superfluous material being knocked off. A break in the block has prevented the work from being completed. From the Longheed farm, Nottawasaga.

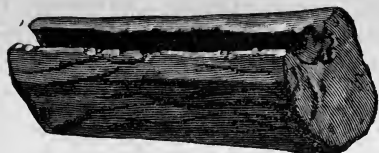


FIG. 141. (Half Size).

It is not easy to say what the specimen here represented was meant for. The material is limestone and the surface looks as if it had been scraped with some fairly sharp instrument. A hole has been bored lengthwise close to the outside, and the thin portion has been broken through purposely. The diameter of the larger end is fully an inch. It was procured from Mr. David Mellville Nottawasaga.



FIG. 142. (Half Size).

In figure 142 we have an engraving of an unfinished tablet or gorget. It is made of favorite material for this class of articles—slate. The side opposite to the one shown is comparatively smooth and well finished. Perhaps the appearance of the flaws shown in the cut put a stop to the boring, although the specimen shows that some work has been performed after the pieces broke off. One hole is bored almost through, and a second has just been begun. This specimen was procured from Mr. Jos. W. Stewart, but its locality is uncertain.

COPPER.



FIG. 143. (About one-ninth Size).

The specimen figured above is truly a "long-knife." Its shape is suggestive of European influence in almost every line, but the workmanship is undoubtedly Indian. It measures exactly fourteen inches in length, but a small piece perhaps not more than half-an-inch has been broken off the tine, or the handle, for it may never have had any other haft, the edges being rounded as if for use in its present condition. This valuable article was found on St. Joseph's Island by Mr. Alex. G. Duncan, and was generously presented to the Provincial museum by Mr. W. D. Kehoe, editor of the "Express," Sault Ste. Marie.

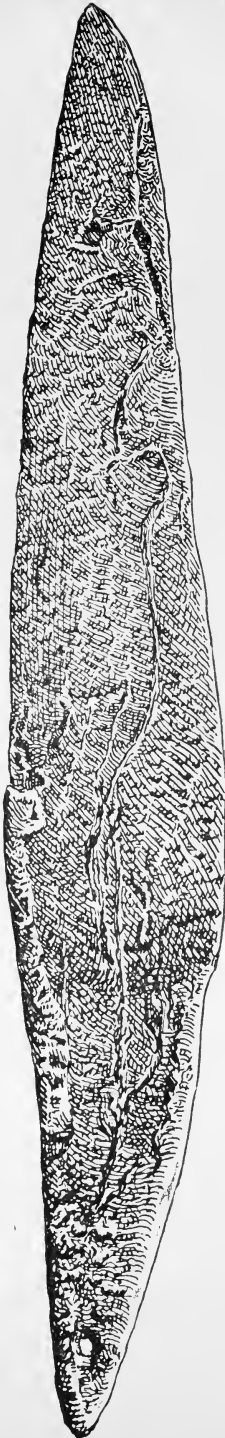


FIG. 144. (Full Size).

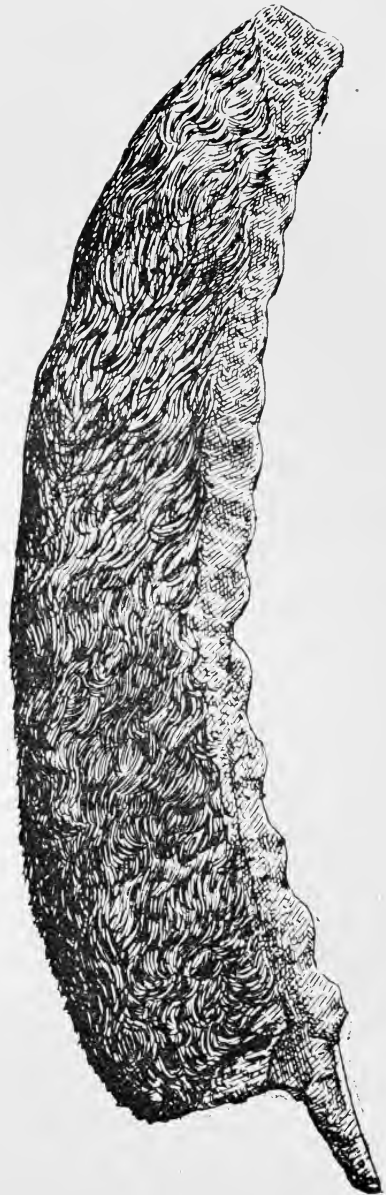


FIG. 145. (Quarter Size).

The copper knife here figured (Fig. 144) was found on Grassy Point, Baptiste Lake, in North Hastings county and was presented to us by Mr. A. Robertson, of Madoc. Both edges have been sharpened, and in the form of the handle we see one of the steps towards insertion by means of a tine in a haft of wood or horn. The handle is simply beaten down to thicken the edges of it, which are also well rounded, for ease in holding, and near this extremity a small hole is bored by means of which it may be slung from the belt. Its original owners were probably Algonquins.

In figure 145 we have a cut of one of the most peculiar copper implements ever found in Ontario, or, so far as I am aware, in America. It was discovered in an ossuary now within the limits of Midland city driving-park, a locality occupied by the Hurons of old, and now the site of one of the most flourishing young towns in the Dominion.

This unique specimen was presented to us by the directors of the park, through their secretary Mr. H. F. Switzer, town clerk. It is a little over thirteen inches in length and is nearly three inches across at the widest part. It is remarkable not for its size alone, but for its curve and its undulating or round-toothed edge. No part of the blade is more than one-eighth inch thick, and the tine is only about three-sixteenths. The teeth are fifteen in number, and the condition of the specimen is so good as to show clearly how the making of them has been done. One side is quite smooth, each tooth being in line with the body of the blade, while on the side shown in the engraving there is a distinct hollow corresponding to each projection. From these depressions it is perfectly evident the edge was at first uniform in thickness and in curve, and that the projections were formed by repeated blows with a hammer of some sort having a small round "pin," or another tool has been used as a punch which, when struck sharply would "draw out" the edge as we see it. In any event the tool is a most remarkable proof of aboriginal mechanical skill. To produce from a rough piece of copper, by hammering, this long, broad and uniformly thick blade would test the skill of a white workman with a kit of tools at his command. But the desire to produce an improved cutting edge as in this case, makes it appear that the workman has merely attempted to imitate the natural or inevitable serrations consequent on flaking stones, especially those of a silicious nature, which were often used as files and saws. The cutting-bar of a mowing machine is constructed on the same principle, and hay-knives and large bread-knives are sometimes made with an undulating edge like that of figure 145. It is needless to say that all our cutting tools have been evolved from the flaked flint of primeval man.

When this blade was deposited with the bones of the deceased "brave" it was carefully wrapped in beaver-skin, a portion of which is still adherent to one side.

As no European traces were discovered about the burial place, it is safe to say that this implement is at least 260 years old, and may be much more.

The example set by the people of Midland City in placing this and other valuable relics in the Provincial Museum, may be followed with advantage by others whose good fortune may lead them to make a "find."



FIG. 146. (Quarter Size).

Along with the carved knife already described from Midland City, there was found a very gracefully formed copper axe, and, like the knife, having the original beaver skin in which it was rolled up when deposited, still attached to one side. While eight and three-fourth inches long, it is only one and a half inches wide at the lip, and barely a quarter of an inch thick. It is perfectly symmetrical in every line, and has been smoothly finished.

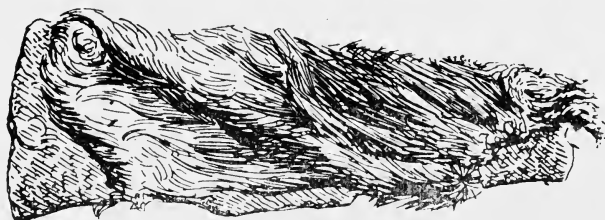


FIG. 147. (Quarter Size).

This axe also retains its old beaver-skin wrapping. It is much heavier in proportion to its length and breadth than figure 146, being nearly half an inch thick in the middle. The lip is very blunt and looks as if it had been used considerably. The specimen in question was found at Point Mamainse, Lake Superior.

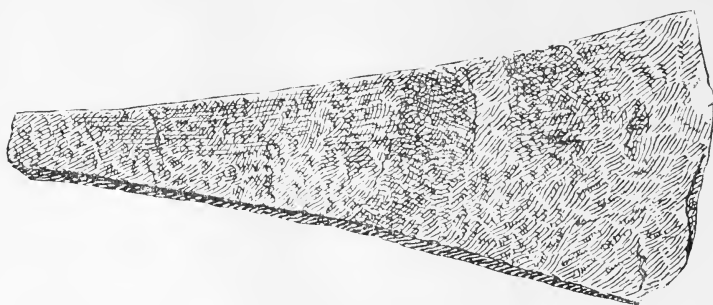


FIG. 148. (Full Size).

We are indebted to Mr. Alex. Robertson of Madoc for the copper implement or weapon figured at 148. He found it in a small mounded grave on the shore of Hog Lake, or Lake Moira, near Madoc. Its size and shape leave hardly any doubt that it was made for insertion in a club-head. The small end is rough, the edges are square and grooved (the latter, perhaps, as the result of hammering) and the wide end has a good cutting edge. Its greatest thickness is barely a quarter of an inch.



FIG. 149. (Three-quarter Size).

Fig. 149 appears to have been the tip of a shaft. Two-thirds of it are

socket, a part of which is broken off. It was found in the township of Vaughan by Mr. Smeiser, and presented by Dr. R. Orr, Toronto.



FIG. 150. (Full Size).

Fig. 150 consists of a small coil of copper wire beaten flat. It is of doubtful origin from the pure Indian or native copper point of view. It seems to be too uniform in size for aboriginal make, and the fact that it was found on the Baby farm suggests European origin.



FIG. 151. (Full Size).

This, too, is of doubtful origin. It is from the Lotteridge farm, near Hamilton. The workmanship, like that of figure 150, is probably Indian, but the material is, perhaps, European. The projection for the hole, too, has a suspiciously European look.

POST EUROPEAN RELICS.

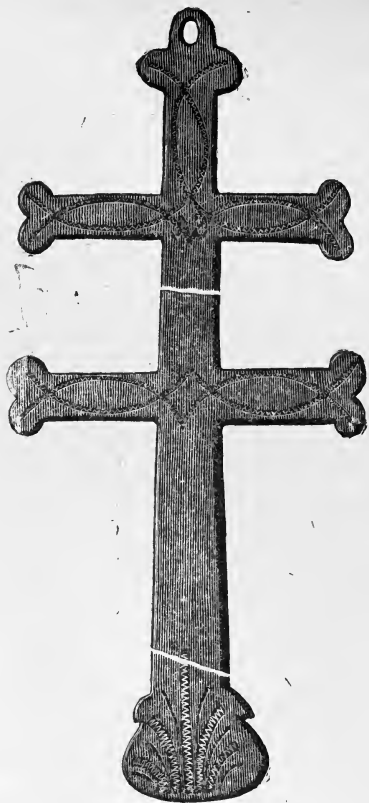


FIG. 152. (Full Size).

Relics of this kind are, as a rule, easily distinguished. There can be no doubt regarding the origin of Fig. 152, which, with two others, was found on Beausoleil Island in the Georgian Bay by Messrs. , from whom

they were procured for the Provincial Museum by the Rev. Th. Laboureau of Penetanguishene. Double-barred crosses of this kind are now, it seems, unknown in connection with Catholic worship, and it is somewhat singular that since we received these relics of the old Hurons, another one almost identical in size and pattern should have found its way to our collection from the North-West, where it was picked up during the late rebellion.

Nahneetis, the *Guardian of Health*, is figured in Jones' "Ojebway Indians," p. 95, with a triple barred cross, and the whole front of the dress covering the effigy is ornamented with brooches similar to those illustrated at Figs. 155, 156, 157 and 162 in this report.

Regarding the peculiar form of cross from Beausoleil Island, Dean Harris of St. Catharines, writes: "This small, dual cross is permitted to be worn only by patriarchs of the Latin Church. It is also sometimes carried as a processional cross, and as Richelieu was bishop and cardinal, it is possible that he used such a cross either as pectoral or processional. In all probability these ornaments were sent out to Canada during his *regime*, and receiving the blessing of the priest among the Hurons, would have served the double purpose of being ornamental and of being used in devotion."

It should be noted that on two of the crosses there are engraved respectively the letters "C. A." and "R. C." Taking a clue from Dean Harris's reference to Richelieu, these letters may mean *C*ardinal *A*rchbishop, and *R*ichelieu *C*ardinal, but as the dean says, "We can easily conjecture many things in association with these letters, but they would be only conjectures."



FIG. 153.

In the report of United States Bureau of Ethnology for 1880-1, p. 178, is figured a Navajo Indian with silver ornaments, regarding which Mr. W. Matthews writes: "The cross is much worn by the Navajos, among whom, I understand, it is not intended to represent the 'cross of Christ,' but is a symbol of the morning star. The lengthening of the lower limb, however, is probably copied from the usual form of the Christian emblem." We are indebted to Major J. W. Powell, director of the Bureau, for permission to copy this cut. (Fig. 153.)



FIG. 154.



FIG. 155.



FIG. 156.

Fig. 154 represents one of several "bangles" found with the crosses on Beausoleil Island. They appear to be made of silver, or else of some other soft white metal. Figs. 155 and 156 are of thin silver, and were, no doubt, simply used as brooches.

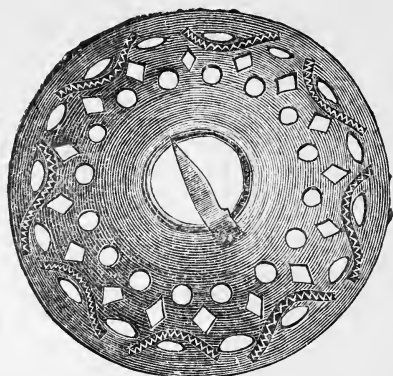


FIG. 157.

Fig. 157 was found near Mindemoya (Old Woman) Lake, Manitoulin Island, by the late Mr. John McPherson of this city, and by him presented to the museum. It is extremely thin. A slender pin is still connected with it.



FIG. 158. (Full Size).

From Mr. John McPherson we also received the odd combination here figured. It consists of a cylindrical copper bead and a flat, triangular one, both made from European sheet metal. Between these are strung four small glass beads, two white and two blue, in an alternate arrangement. These were found on Manitoulin Island.



FIG. 159. (Full Size).



FIG. 160. (Full Size).

Finger-rings of any kind are seldom discovered. I know of but one apparently genuine and highly finished stone ring. Those figured above are brass. Fig. 159 has engraved upon the seal a capital L enclosing a heart; and on figure 160 is cut the monogram I. H. S. The latter was found on what was thought to be the site of the ancient Ossossane in the Huron country, and was presented by Rev. Th. Laboureau. The former was found on the Baby Farm.



FIG. 161. (Quarter Size).

The production of a pewter pipe like the above leaves no doubt as to European influence. The animal is probably meant to represent a bear. This pipe was found near the village of Scotland in Brant county. The only other pewter pipe in our collection came from the Bay of Quinte, where it was found some feet deep in the water, and was given to us by Dr. T. W. Beeman of Perth.

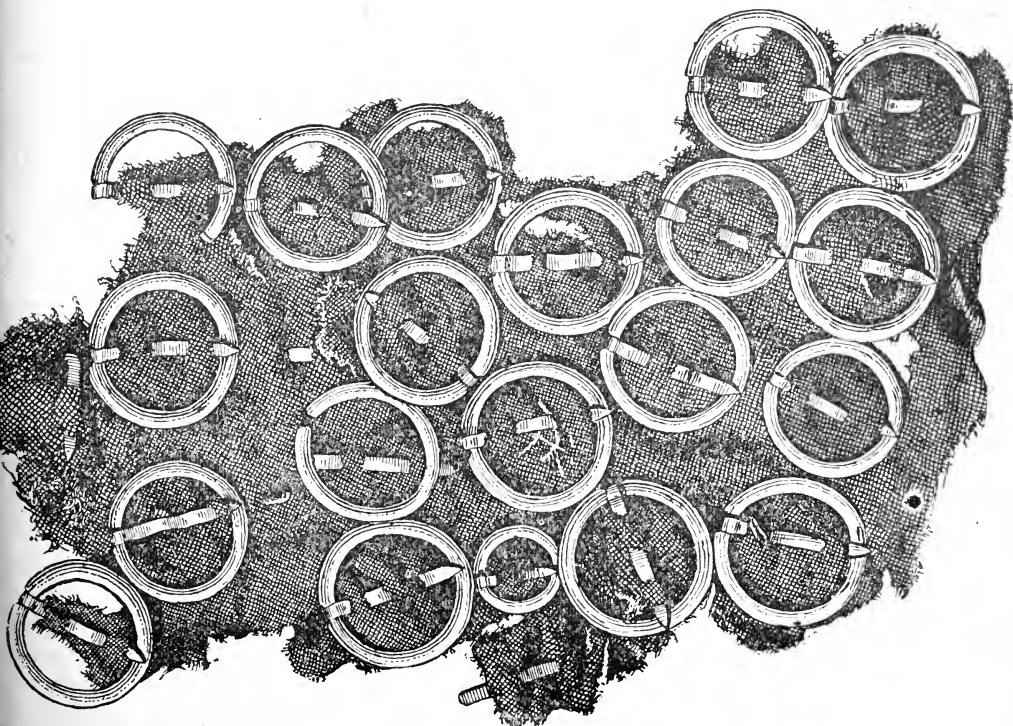


FIG. 162. (Full Size).

It has often proved puzzling to account for the presence of numerous little broach-pins (like those here figured) in ossuaries. The specimen of cloth represented

shows us the use that was, at least in some cases, made of them. Apparently the whole skirt or body, or perhaps the whole of a garment was adorned in this way. Although all are now coated more or less with verdigris, the metal is white. The verdigris may, in part, be owing to the presence of a small copper vessel that was found beside them in the grave.

The fabric to which they are fastened is a coarse linen and of brown color. It was found along with the crosses already mentioned, on Beausoleil Island, and was procured for the museum by the Rev. Mr. Laboureau of Penetanguishene.

EXTRACTS.

In a few of the following pages I have transcribed from rare sources some bits of information relative to the Indians. The statements made tend in many cases to throw light on portions of history and archæology that require all they can get.

The first quotation is from the pen of John Mecklenburg, a Dutch Lutheran minister. According to the custom of his day the Rev. Mr. Mecklenburg writes his name in classic form, and thus figures as John, or Johannes Megapolensis. His account of the Indians as he knew them, in what is now the State of New York, is, perhaps, the quaintest, briefest and best ever written, and reveals to us the Mohawk or Iroquois as in some respects not quite so bad a savage as he has been painted.

"A SHORT ACCOUNT OF THE MAQUAS INDIANS IN NEW NETHERLAND : THEIR COUNTRY, STATURE, DRESS, CUSTOMS AND MAGISTRATES, WRITTEN IN THE YEAR 1644."

BY JOHN MEGAPOLENSIS, JUN., MINISTER THERE.

(*From the Dutch.*)

... "The Inhabitants of this Country are of two Kinds, 1st, Christians so-called; 2nd, Indians; of the Christians I shall say nothing; my Design is to speak of the Indians only. These among us are of two Kinds, 1st, the *Mahakin-haas*, or, as they call themselves, *Kajingahaga*; 2nd, the *Mahakans*, otherwise called *Agatzagena*. These two Nations have different Languages, each having an affinity to the other, as the Dutch and Latin. These People have formerly carried on War against each other, but since the *Mahakanders* were subdued by the *Mahakohaas* a Peace has subsisted between them, and the conquered are obliged to bring a yearly Contribution to the others. We live among both these Kinds of Indians, and they coming to us from their Country or we going to them, do us every Act of Friendship. The principal Nation of all the Savages and Indians hereabouts with which we are connected, are the *Mahakuaas*,* who have

* Mohawks.

laid all the other Indians near us under Contribution. This Nation has a very heavy Language, and I find great Difficulty in learning it so as to speak and preach to them fluently: there are no Christians who understand the Language thoroughly; those who have lived here long can hold a Kind of Conversation, just sufficient to carry on Trade, but they do not understand the Idiom of the Language. I am making a vocabulary of the *Mahakuaa* Language, and when I am among them I ask them how Things are called; then, as they are very dumb, I cannot sometimes get an Explanation of what I want. Besides what I have just mentioned, one will tell me a word in the *Infinitive*, another in the *Indicative* Mood; one in the *first*, another in the *second Person*; one in the *Present*, another in the *Præterperfect Tense*. So I stand sometimes and look, but do not know how to put it down: and as they have their Declensions and Conjugations, so they have their *Increases* like the Greeks, and I am sometimes as if I was distracted and cannot tell what to do, and there is no Person to set me right; I must do all myself in Order to become an *Indian Grammarian*. When I first observed that they pronounced their Words so differently, I asked the Commissary of the Company what it meant, and he told me he did not know, but imagined they changed their Language every two or three Years; I told him it could never be that a whole Nation should so generally change their Language:—and though he has been connected with them these twenty years he can afford me no Assistance.

“The Indians in this Country are of much the same Stature as Dutchmen; some of them have very good Features, and their Bodies and Limbs are well proportioned; they all have black Eyes, but their Skin is tawny; in Summer they go naked—(almost); the Children and young Folks to 10, 12 and 14 Years of Age go mother-naked; in Winter they hang loosely about them a Deer's, or Bear's or Panther's Skin, or they take some Beaver and Otter Skins, or Wild-Cat, Raccoon's, Martin's, Mink's, Squirrel, or several Kinds of Skins, which are plenty in this Country and sew some of them upon others. until it is a square Piece, and that is then a Garment for them, or they buy of us Dutchmen two and a half Ells of Duffels, and that they hang loosely on them, just as it was torn off, without any sewing, and as they go away they look very much at themselves, and think they are very fine. They make themselves Stockings and Shoes of Deer Skin, or they take the Leaves of their Corn, and plat them together and use them for Shoes. The Women as well as the Men go naked about the head; the Women let their Hair grow very long and tie it, and let it hang down their Backs; some of the Men wear their Hair on one Side of the Head, and some on both Sides, and a long Lock of Hair hanging down: on the top of their Heads they have a Streak of Hair from the Forehead to the Neck about the Breadth of three Fingers, and this they shorten till it is about two or three Fingers long, and it stands right on End like Hog's Bristles; on both Sides of this Streak they cut the Hair short off, except the aforesaid Locks, and they also leave on the bare Places here and there small Locks, such as are in Sweeping-Brushes, and they are very fine. They likewise paint their Faces red, blue, &c., and then they look like the Devil himself. They grease their Heads with Bear's-grease, which they always carry with them for this purpose in a small Basket; they say they do it to make their Hair grow, and prevent their having Lice. When they travel they take with them some Maize, a Kettle, a Wooden Bowl and a Spoon: these they pack up and hang on their Backs, and when they are hungry they make a fire and cook—they can get Fire by rubbing Pieces of Wood very briskly against one another. They live in Common without Marriage, but if any of them have Wives the Marriage continues no longer than they think proper, and then they separate and each takes another Partner. * * * * *

The Women are obliged to prepare the Land, to mow, to plant, and do every Thing: the Men do nothing except hunting, fishing, and going to War against their enemies: they treat their Enemies with great Cruelty in time of War, for they first bit off the Nails of the Fingers of their Captives, and cut off some Joints, and sometimes the whole of the Fingers; after that the Captives are obliged to sing and dance before them stark naked, and finally they roast them before a slow Fire for some Days, and eat them: the common People eat the Arms, Buttocks, and Carcass, but the Head-men eat the Head and the Heart. Our Mahakas carry on great War against the Indians of *Canada* on the river *St. Lawrence*, and take many Captives, and sometimes there are French Christians among them. Last year our Indians got a great Booty from the French on the river *St. Lawrence*, and took three *Frenchmen*, one of whom was a Jesuit*; they killed one, but the Jesuit (whose left thumb was cut off, and all the Nails and Pieces of his Fingers were bitten) we released him and sent him to *France* by a Yacht which was going to *Holland*. They spare all the Children from ten to twelve Years old, and all the Women they take in War, unless the Women are very old, and then they kill them. Though they are very cruel to their Enemies they are very friendly to us: we are under no Apprehension from them; we go with them into the Woods; we meet with one another sometimes one or two miles from any Houses, and are no more uneasy about it than if we met with Christians: they sleep by us too in our Chambers; I have had eight at once who laid and slept upon the Floor near my Bed, for it is their Custom to sleep only on the bare Ground, and to have only a Stone or a Bit of Wood under their Heads, they go to Bed very soon after they have supped, but rise early in the Morning: they get up before Day-Break. They are very slovenly and dirty; they neither wash their Face nor Hands, but let all the dirt remain upon their tawny Skin, and look as dirty as Hogs. Their Bread is Indian Corn beaten to Pieces between two Stones, of which they make a Cake and bake it in the Ashes; they eat with it Venison, Turkies, Hares, Bears, Wild Cats, their own Dogs, &c. The Fish they cook just as they get them out of the Water, without cleaning, and the Entrails of the Deer in the same Manner; they cook them a little, and if the Entrails are tough, they take one end in their Mouth and the other in their Hand, and cut them off between their Hand and their Mouth, and then they eat them; so they do commonly with the Flesh, but they cut it a little and lay it on the Fire so long as till we could go from the House round the Church, and then it is done, and when they eat it the Blood runs down their Chins. They can take a Piece of Bear's-Grease as large as two Fists, and eat it without any Bread. It is natural for them to have no Beards, not one in an hundred has any Hair about his Mouth: they have also naturally a great opinion of themselves, and when they praise themselves they say *Thy Othkon* (I am the Devil) they mean by it that they are very brave. In order to praise themselves and their People when we tell them they are very expert at catching Deer, they say, *Tkoschs ko aguweechon Kajingahaga kouaane Jountuekcha Othkon*, that is, *Really all the Mohawks are very cunning Devils*. They make their Houses of the Bark of Trees, very close and warm, and place their Fire in the middle of them; they also make of the Peeling and Bark of Trees *Canoes*, or small Boats, which will carry four, five and six Persons; in like manner they hollow out Trees and use them for Boats: some of them are very large. * * * * * The arms used by the Indians in War were formerly a Bow and Arrow with a Stone Axe and Mallet, but now they get from our People Guns, Swords, Iron Axes and Mallets. Their Money consists of certain little Bones made of the Shells of Cockles which are found on the Beach; a hole is made through the Middle of the little Bones; and they are strung

*Pere Jogues.

upon Thread, or they make of them Belts as broad as a Hand or broader, which they hang over their Necks and on their Bodies; they have also several Holes in their Ears, and there they hang some; and they value these little Bones as highly as many Christians do Gold, Silver and Pearls, but they have no Value for our Money and esteem it no better than Iron. * * * * * They place their Dead upright in Holes, and do not lay them down, and then throw on the Grave some Trees and Wood, or they enclose them with Palisades. They have their set times for going to catch Fish, Bears, Panthers, Beavers and Eels; in the Spring they catch vast quantities of Shad and Lampreys which are very large here—they lay them on the Bark of Trees in the Sun, and dry them very hard, and then put them in a Bag which they make of wild Hemp, and keep them till Winter when their Corn is ripe; to keep them from the Air, they dig a deep Hole and preserve them therein the whole Winter. They can make Nets and Seines in their Way, and when they want to fish with seines ten or twelve men will go together and help each other, all of whom own the Seines.

They are entire Strangers to all Religion, but they have a *Tharonhijouagon*, (which others also call *Athzooekkuatoriaho*) i.e. a *Genius* which they put in the place of God, but they do not worship or present Offerings to him: they worship and present Offerings to the Devil whom they call *Otskon* or *Aireskuoni*. * * * They call us *Assyreoni*, that is Cloth-Makers, or *Charistooni*, that is Iron-Workers, because our People first brought Cloth and Iron among them. * * * * *

The *Mohawk* Indians are divided into three Tribes, which are called *Ochkari*, *Anoware*, *Oknaho*, that is, the *Bear*, the *Tortoise* and the *Wolf*; of these the *Tortoise* is the greatest and principal, and boast that they are the oldest descendants of the woman beforementioned; (a woman who fell from heaven and was carried by a *Tortoise*, while she paddled in the water with her hands and raked up earth to form the dry land), these have made a Fort of Palisades, and call their Castle *Asserue*. Those of the *Bear* are the next to these, and their Castle is by them called *Banagiro*; the last were taken from them and their Castle is called *Thenondiogo*. Each of these Tribes carries the Beast after which it is called (as the Arms in its Banner) when it goes to War against its Enemies, and this is done as well for the Terror of its Enemies as for a Declaration of its own Bravery. * * * * * But although they are so cruel, and have no Laws or Punishments, yet there are not half so many Villaines or Murders committed amongst them as amongst Christians, so that I sometimes think with astonishment upon the Murders committed in the Netherlands, notwithstanding their severe Laws and heavy Penalties. These Indians though they live without Laws or fear of Punishment, do not kill People unless they are in a great Passion, or fighting, wherefore we go along with them, or meet them in the Woods without Fear.

JOHANNES MEGAPOLENSIS.

Hazard's Historical Collection of State Papers, Philadelphia, 1792, p. 517
et seq.

TRIBAL NAMES.

The number of synonyms by which many Indian tribes were known, makes it difficult sometimes for the reader to understand. Sometimes the difference consists merely in the spelling, but not seldom, totally different words are employed, and with a wholly different meaning. There are various reasons for these divergencies—the pronunciation of the same name may not strike all foreign ears

alike, hence a difference in the spelling; sometimes the question of a European was misunderstood, and, in consequence, the wrong answer was given; not unfrequently the name a people called themselves was different from that by which they were known to their neighbors or enemies, and sometimes they actually called themselves by more than one name, or the name of a family or band was given by mistake to the "nation." Thus in the case of the Hurons, Parkman remarks:—"The usual confusion of Indian tribal names prevails in the case of the Hurons. The following are their synonyms:—

Hurons (of French origin); Ochateguins (Champlain); Attigouantans (the name of one of their tribes, used by Champlain for the whole nation); Ouendat (their true name according to Lalemant); Yendat, Wyandot, Guyandot (corruptions of the preceding); Ouaouakecinatouek (Potier); Quatogies (Colden)."

Again, the Tobacco Nation ultimately united with the Hurons was known as the Tionnontates, Deonondadies, Dionondadies, Tuinontek, Etionontates, and Khionontaterrhonons!

The Mohawks did not apply the name to themselves. "An enemy hath done this." These proud people acknowledged only the name Ganeagaono. Instances of this kind are common among ourselves. From the following extract we may learn what was considered as the official or "authorized list" of all the Indian tribes within British jurisdiction at the time the "Instructions" were issued.

In the "Copy of Instructions to Guy Carleton, Esquire, Captain-General and Governor-in-chief in and over the Province of Quebec in America, and of all the territories dependent thereupon. Dated St. James, 3rd January, 1775, there is a 'Plan for the future Management of Indian Affairs.'"

According to this plan article 2nd provides "That for the better Regulation of this Trade and the Management of Indian Affairs in general, the British Dominions in North America be divided into Two Districts, to comprehend and include the several tribes of Indians mentioned in the annexed Lists A. and B."

A

"List of Indian Tribes in the Northern District of North America:

Mohocks, Oneidas, Tuscaroras, Onondagas, Cayugas, Senecas, Oswegachys, Nanticokes, Conoys, Tuteeves, Saponeys, Caghnawagas, Canassadagas, Arundacks, Algonkins, Abenaguis, Skaghquanoghronos, Hurons, Shawanese, Delawares, Wiandots, Powtewatamis, Ottawas, Chipeweighs, or Missisagis, Meynomenys, Folsavoins, Puans, Sakis, Foxes, Tughtwees, Kickapous, Mascoatins, Pianashaws, Wawiaghtones, Keskeskias, Illinois, Sioux, Micmacs, Norwidgewalks, Arseguntecokes, Penobscots, St. Johns.

B.

List of Indian Tribes in the Southern District of North America:

Cherokees, Creeks, Chickasaws, Cheictaws, Catawbas, Beluxis, Humas, Attucapas, Bayugatas, Tunicas, Peluchas, Osuglas, Querphas."

The foregoing is from Papers relative to the Province of Quebec, ordered to be printed 21st April, 1791:

The following from "An Historical Journal of the Campaigns in North America for the years 1757, 1758, 1759, and 1760, by John Knox, London, 1769," will enable us to form an idea of the relative strength of the six nations who were loyal to the British shortly before the outbreak of the American war, as well as to compare the names with some of those already given.

"At a muster taken this day, (August 5th., 1760), they [the Indians] amount to thirteen hundred and thirty, composed of the following different nations, most of whom were lately in alliance with the French, and by them called the Iroquois:

Senesagos	329
Cayugas	284
Tuscarores	37
Cunasarages	20
Mohawks	51
Mohians	12
Oquagos	18
Oswegatcheis	15
The Belt Party	12
Senecas	114
Onondagoes	203
Oneidas	60
Canajorakies	85
Schonasies	22
Chennogoas	31
Mawas	3
Caunadrogas	34
Total	1330."

BALSAM LAKE.

BY GEORGE E. LAIDLAW.

Balsam Lake is a large lake lying to the north-east of Lake Simcoe, about seventeen miles distant. The height of land lying between these two lakes lies at an average distance of one mile west of Balsam Lake, which is a link in the inland system of waters emptying into the Bay of Quinte; this system being one of the internal canoe highways to Montreal from the Huron country, and was connected by a portage from near Beaverton, on Lake Simcoe, to the extremity of West Bay Balsam Lake. This old Huron trail is now enlarged into a government road called the Portage Road. The Hurons had the option of another route to Balsam Lake; namely, ascending the Talbot River as far as possible, then portaging across the height of land to North Bay; this is the most northerly of the two.

Of village sites I know of but three; the first situated about three-fourths of a mile west of West Bay, and about the same distance north of the Huron trail. The second, distant nine miles along the trail, and about one mile south

or about half way distant between the two lakes, and has need of being examined by an expert, for some unique relics have been found in that locality. The third village, situated about one and a half miles west of North Bay and three miles north of first village site.

There are quite a number of camp sites, from which fragments of pottery, pipes, bone ornaments and implements, clam shells, charcoal, and burnt bones have been picked up. These camps cover small areas, and are quite near the shore, wherever there is a bit of sandy beach.

Indian Point is a point a couple of miles long, jutting down into the lake from the north end. Indians have lived on this point, from ancient times, down to a score or so of years ago. Both ancient and modern relics have been found there, but being cultivated for a quarter of a century, the traces are wiped out. There is an ancient graveyard here similar to the ones in the vicinity of village sites one and three. But the exact position of the single graves cannot be determined owing to cultivation.

There are three islands (Ghost, Birch and Ant) which were examined last summer by Mr. Boyle and myself. On Ghost Island, two graves on the south side of the island were opened some years ago; skulls being carried off and relics if any. These are the only two known graves here, that have mounds erected over them; diameter ten to twelve feet deep. On Ghost and Birch Islands there are, evidently, a few short rows of single graves, containing neither skeletons or relics, but showing by the discolouration, and the disturbance of the soil, that they have at one time contained skeletons; whether the skeletons have been disinterred for reburial in an ossuary, or totally decayed from extreme age, is a matter for conjecture.

Ghost Island, it is claimed, was formerly a corn planting ground, and the pagan Indians in modern times lived on it, while the Christian Indians of the same tribe lived on the adjacent Indian Point.

On Ant Island were found arrow points, flint chips, etc.

Graveyards are generally found near a village site, but instead of being located on the top of the hills like the Huron ossuaries, are on the slope, or at the foot of the hill. The one on Indian Point being on the lowest piece of land. These graveyards consist of single graves, which are about two feet deep, and can be easily traced by the circular depressions in the soil. These single graves occur in rows, which run in no particular direction; some even appearing to cross one another. They contain no relics. A number were opened at village site No. 1 last summer; the skeletons were medium size, brittle and soft, crumbling on exposure to the air. Two or three skulls, however, were preserved.

Besides the two mound graves, a modern grave is occasionally found on the banks of the lake; of those known, two contain single skeletons in rough hewn cedar coffins, fastened with nails of French make; no relics; locality, Indian Point, while another contained two skeletons, evidently a woman and child, wrapped in birch bark. A copper pot, pewter spoon, string of bells on buskskin, small silver broach or buckle, silver ring and cross, were found with them; locality, bank of West Bay.

An ash heap on the outskirts of village No. 1 on examination, disclosed, fragments of pipes, pottery, bone implements and ornaments, burnt bones, clam shells, jaws of beaver and other small animals, fragments of turtle shells and deer horns. Diameter of ash heap, seventeen feet; depth, three feet.

At the eastern extremity of this trail quite a number of relics have been found, including stone axes, gouges and pipes, fragments of pottery, clay pipes, flint arrow and spear heads—about the only place here where the latter are found—flint scrapers, awls, and chips; gun flints, iron tomahawks and French axes, fragments of gun barrels, and hoop-iron arrow heads, and also a copper arrow head, of native copper and native manufacture. This is about three inches long and one and one-half broad, with corners turned up to form a socket, the point rounder than sharp. The evidence of this variety of relics shows that the trail was in use from a very early time. A quarter of a mile from this trail is a large boulder, on the lake shore, containing a shallow mortar, probably used to pound shells, mica or quartz in the manufacture of pottery, or to crush corn. Around it are evidences of a camp site.

The relics picked up on village site No. 1 show no trace of contact with white men. There were two large slabs of green stone found here, probably brought in from some far off quarry. They were about eighteen or twenty inches long by about twelve wide and two or three thick.

Axes, celts, gouges, chisels, slick-stone, mullers of all sizes and material, from granite celts pecked into shape, to rough slabs of slate, or green stone, worked to an edge, and of all sizes, from two to fifteen inches long, none, however, are grooved.

Arrow and spear heads are not numerous, as in other sections, probably ones of bone and horn being used to a great extent, or that the population lived largely by agriculture and fishing, instead of hunting. "Parkman" mentions there was a dearth of game in the Huron country, though there are doubts whether this section was included in the Huron territory. These arrow and spear heads embrace all the general types, tanged, barbed, notched, based, triangular, etc. Materials, quartz and chert predominating, with a few of slate.

Scrapers embrace the horseshoe, leaf-shaped and circular types.

No doubt the larger chips and flakes of these were used for scraping, cutting, sawing, etc.

The awls are of the ordinary club-based variety.

The square and oval types of pendants and gorgets occur, also the concave sided, contain from one to three or four holes.

A good specimen of slate knife of the semi-lunar shape, as figured by Abbott in "Primitive Industry" was found by Mr. Boyle on village site No. 2.

The bone articles consist of needles, eyed and eyeless, harpoons, arrow heads, awls of every size, made by sharpening one end of bone splinters, and pottery markers. The latter being formed by sawing off one end of a bird's bone to leave the impression of a ring, and sharpening the other end to a point to make the strokes, as observed in the pottery patterns.

Ornaments are sections of hollow bones polished, probably birds', and used as beads. Worked bones, similar to that which is figured in the Canadian Institute's Report for 1887, fig. 102. A few tallies were also found of horn objects; one specimen is evidently intended for a pipe, and another is chisel shaped, with a hole at butt end for suspension, and is large enough to be used for skinning purposes.

Bear's tusks are plentiful on the village sites

Discs, beads of stone and pottery. These vary up to two inches in diameter, and are sometimes well finished. The pottery ones were probably formed from broken fragments. Some are perforated, others with the perforation just started, and a few are not perforated. See fig. 28 in "Fossil Man."

All the pottery from village and camp sites and isolated places, are of the same class. The majority of the markings are similar to those represented by "Dawson, in Fossil Man," as belonging to the Hochelagan's. See figs. 14, 16, 17, 21 and *a, b, c, d, f*, fig. 22. A few patterns resemble the Vermont style, p. 159, and the Pennsylvania, p. 178 in "Abbott's Primitive Industry." While not a few samples indicate that the types figured in Primitive Industry p. 173, as coming from the county of Grey, or modifications thereof were in vogue. These types are all intermingled, but the majority show the Hochelagan influence.

One sample of a denser, closer structure, found by myself, may be called a Grecian type. It is the panel of a square mouthed pot, the ornamentation consisting of a row of short parallel, horizontal, straight lines, surrounded by a number of concentric squares, not very different to the Mexican Frette, figured by Wilson on p. 30, vol. 1, Prehistoric Man.

The clay pipes may be divided as follows: Firstly. The plain cornet or Huron pipe of various sizes and colours, ornamented, or plain, or modifications thereof, figured in "Fossil Man," as Hochelagan, and fig. 6 Canadian Institute's Report for 1889. Secondly. The human face pipe, of which a splendid one, double faced and unbroken, found on village site No. 1, was sent to the British Museum. Another similar to fig. 14, Canadian Institute's Report for 1889, only with narrower eyes and thin protruding lips.

Another head pipe has very large pointed nose, broad forehead, and small retreating chin. Another pipe evidently had a head perched on the rim. Arms and hands in front of bowl. Mr. R. G. Corneil has a double-faced pipe, and a pipe with figure of a child projecting from front of bowl. Thirdly. Quite a number of pipes of the following description are found: short, round, thick bowl at right angles from the stem, varying from one to two and one-half inches in height, and about one to one and one-half in diameter; some very rough and others glazed, a few are ornamented with indented rings and rows of holes. There are a few pipes which cannot be classed. The fragment of a stem shows a snake coiled around it; another fragment split longitudinally shows that its stem hole was made with a twisted cord.

Vase types, do not occur frequently, no doubt owing to the extensive use of clay pipes; however, we have the vase type represented by two specimens; the largest, of grey marble, with two stem holes, the diameter oval. The longer axis through the sides, which contain the stem holes. The smallest is of black marble, with one stem hole, circular diameter.

Both pipes are well polished and each has two small holes in the bottom, drilled to meet each other at an angle, either for suspension of an appendage, or to securely fasten the stem. See figs. 12, 16, 19 Canadian Institute's Report, 1889.

An unfinished pipe shows that the bowl and stem hole were bored after the pipe was shaped; this one has a small bowl similar to the Chinese opium pipe, set on a long base of square section, lessening to a mouthpiece, resembling the mound builders' pipe, in the manner that no separate stem was needed. Diameter of stem hole, one-eighth of an inch.

ANIMAL PIPES.—This is a new and distinct class of pipe sculpture differing greatly from known types and is represented by the bear, panther, and we may include the monkey and lynx pipes.

The bear pipe is made of steatite, colour stained black ; length, three and one-half by two and one-quarter inches, eyes, ears and mouth well marked ; each leg is separate, and a groove around the neck. Locality, Balsover. (See fig. 84).

The panther pipe is of steatite, colour a mottled green ; length, four and one-eighth by two and one-fourth inches, same posture as bear pipe. An indentation is on each side of neck, eyes bored through, ears defined by slight protuberances, mouth defined by an indentation on each side of jaw, legs not separate as in bear pipe, each pair being *en bloc* and in a natural position, two stem holes. The perforation behind the hind legs, as in bear pipe, being probably used for attachment to the person of the owner by a cord. Locality, township of Carden. See Fig. 85.

The lynx pipe is similar to above, but with tufts on the ears. Locality, Muskoka.

EAGLE PIPE.—Material, Huronian slate, well finished, colour light green with dark veins ; length, five inches ; thickness, two inches ; wings, beak, eyes, and feet well executed. The position of the bowls on these pipes show that they were made by the same people, and may be called totem pipes, being a different class of sculpture from the Mound Builders' animal and bird pipes and fully as well finished and executed, and as true to nature. No pipes like these being found on Huron village sites, they may properly be relegated to some nation, the Hurons exterminated or absorbed, or the only other alternative that they were made since the Hurons left the country. Still these animal pipes may have been the life-work of a single pipemaker. See Fig. 86.

Copper relics are rare. Besides the arrow head before mentioned, a knife has been found ; length, seven inches, point rounded.

Some exception has been taken to this knife, because it is supposed to resemble the modern form. If this is conceded, then it must have been made in modern times, which cannot be admitted, for the Jesuits in their records make no mention of the natives working copper, and they were the most observant of all observers. This knife resembles—except the rounded point—the ones figured 116, Canadian Institute's Report, 1887. Figs. 1, 2, p. 89, Short's North America of Antiquity ; fig. 54 a, Foster's Prehistoric Races of the United States.

It is evident from the different modes of burial and from other minor details, that this country was inhabited by a people which were absorbed or exterminated by the Hurons, or else they sought shelter with the Hurons from the savage forays of the Iroquois. This people may or may not have been the Hochelagans of Cartier ; the evidences rather show that they were. So let us extend their territory to this region. The Hurons having their settlements and towns to the west of Lake Simcoe, did not extend to this side in historic times, or else it would have been recorded.

This region having been too thickly populated to have been passed by unnoticed. If Jesuit relations locate no towns on this side of Lake Simcoe, or mention no large population, then evidently at that time none existed, so that the village sites, etc., belonged to some other nation, or that the Hurons themselves resided here before they lived to the westward of Lake Simcoe.

CONTRIBUTIONS TOWARDS A BIBLIOGRAPHY OF THE ARCHÆ-
OLOGY OF THE DOMINION OF CANADA AND NEWFOUNDLAND.
III.

BY A. F. CHAMBERLAIN, M.A.

AMBROSE, REV. JOHN, M.A.—A few observations on a beach-mound or kitchen-midden, near French Village. . . . Proc. and Trans. Nova Scotia Institute of Natural Science. Vol. II. (1864), pp. 42-43.

Describes shell-mound and contents on shore of Dauphiney's Cove, St. Margaret's Bay, N.S.

BACK, CAPT., R.N.—Travels to the Arctic Regions. Forms pp. 509-704 of: The Voyage of Capt. Beechey, R.N. to the Pacific and Behring's Straits, and the Travels of Capt. Back, R.N., to the Great Fish River and Arctic Seas. Compiled by Robert Huish, Esq., F.S.A. & Z.S. London 1836, VI, 704.

Describes religious offerings to *Kepoochikawn* at Cumberland House, (pp. 563-565), religious festival, in tent, (566-567), Chippewa burials (579-580), remains of Eskimo encampments (661).

BOYLE, DAVID.—Archæological Report. Annual Report of Canadian Institute, Session 1888-9. Toronto. 1889, pp. 1-118.

This most valuable report may be thus summarized: Introductory remarks (pp. 1-3), archæological remains in the Huron region (8-15) with map of the township of Nottawasaga showing location of village-sites, graves, and ossuaries, (9) and map of earth-work in the township (11), detailed description of archæological investigations at village-site at Clearville, Kent County (15-18) with map (16), township of Humberstone (18), York and Vaughan (19-20), archæological notes (21-42) with 39 figures, pottery (21-23), clay pipes (23-27), stone-pipes (28-31), bone and horn implements (31-34), flint (35), stone-tubes (35), other stone specimens (36-37), mortars (38), copper-implements (39-40), crania (with figure, 41), modern Indian dresses (42), French relics from village-sites of the Hurons (42-46, see Hunter, A. F.), exhaustive catalogue of specimens in the Provincial Archæological Museum (48-101), Bibliography of the Art and Archæology of the Aboriginal tribes of Canada (102-118, see Chamberlain, A.F.)

Long article in *Toronto Globe*, Vol. XLVI, No. 190, Aug. 9, 1890, illus. by numerous wood-cuts of specimens in the Provincial Archæological Museum.

Canadian Indian, The. Vol. I. No. I. October, 1889.

Contains (pp. 6-7) a few remarks on mounds, burial-places, etc.

CHAMBERLAIN, A. F.—Bibliography of the Art and Archæology of the Aboriginal Tribes of the Dominion of Canada and Newfoundland, II. Annual Report of Canadian Institute, Session 1888-9. Toronto, 1889, pp. 102-118.

Contains some 160 titles.

———. The Archæology of Scugog Island. Proc. Canad. Inst. 3rd Series Vol. VII (1889), pp. 14-15.

Brief abstract of paper cited in previous section, See also "Toronto Mail," Jan. 14, 1889, and Amer. Antiquarian, November 1889, p. 390. See likewise Proc. Canad. Inst. 3rd series, Vol. VII (1889) pp. 13-14, pp. 40-41, "Toronto Mail," Jan. 14, 1889, April, 15, 1889.

DAWSON [SIR]. J. W.—Nouvelle Note sur les Antiquités Aborigènes trouvées à Montréal. Pamphlet, 800, pp. 25-36. Apparently a reprint in French from the Canadian Naturalist.

Describes the finds at Montreal. Evidently a reproduction in French of the article "Additional Notes on Aboriginal Antiquities found at Montreal," *Canad. Naturalist and Geologist*, VI (1861) pp. 662-673 with same woodcuts. See under Dawson, Sir J. W. in Section II.

G———, W.—On the occurrence of the Kjøekkenmødden on the shore of Nova Scotia, *Proc. and Trans. Nova Scotia Institute of Natural Science*. Vol. II (1864), pp. 94-99.

Gives (pp. 94-97) a detailed account of the examination, at St. Margaret's Bay, N.S., of a shell-heap. The mound was 100x25 feet and contained shells, bones, teeth of animals, needles of bone, arrow-heads, etc. At pp. 97-99 are descriptions of similar deposits at Cole Harbor, 10 miles east of Halifax and at Cranberry Cove. The article is signed "W. G."

GENTLEMAN'S MAGAZINE, THE.—Vol. LI, London, 1781, pp. 367-8.

Contains letter from "Y. Z." on "Punic Inscriptions on the western borders of Canada."

GILPIN, BERNARD J. B.A., M.D., M.R.S.C.—The Indians of Nova Scotia. *Proc. and Trans. of Nova Scotia Institute of Natural Science*, Halifax. Vol. II (1876-1877), pp. 260-281.

General description of Indian Tribes of Nova Scotia. Notices, weapons (261), clothing, utensils (262), dress (270-271), agriculture (279).

———.—On the Stone Age of Nova Scotia. *Ib.*, Vol. III. (1872-3), pp. 220-231, with plate containing ten figures between pages 320 and 321.

An elaborate and interesting paper. Describes clothing, etc. (221-2), cooking (223), graves near Yarmouth (227), stone pipes (227), stone implements (228-9), pierced stones (228), arrow-heads (228), spear-heads (229), hammer, axes, gouges, chisels, wedges, of polished stone (229), wicker-boat (229), chisels, wedges (230), serpent stones (230). The figures on the plate are: 1, 2, 3, arrow-heads; 4, knife-blade; 5, axe; 6, lance-head; 7, pipe; 8, wedge; 9, serpent stone; 10, plummet stone.

GOSSIP, WILLIAM.—On the Antiquity of man in America. *Ib.* II (1868-9), pp. 35-37.

Contains (pp. 70-71) brief notice of arts and customs, arms and utensils of Micmacs.

HALE, HORATIO.—In "Magazine of American History," Vol. (1883), p. 479.

Notices a curious carved oak image of Sasataretsi, king of the Wendats or Hurons.

———.—The Origin of Primitive Money. *Popular Science Monthly*, January, 1886. pp. 296-307.

Discusses the origin, use, distribution, etc., of wampum, shell-money, and the like, with numerous illustrations at pp. 303, 305, 306.

HALIBURTON, R. G., Esq. F.S.A.—On the Festival on the Dead. *Proc. and Trans. of Nova Scotia Institute of Natural Science*. Vol. I (1863), pp. 61-85.

HALLOCK, CHAS.—Three months in Labrador. *Harper's New Monthly Magazine*. Vol. XII (1860-1861), pp. 577-599, 743-765.

Describes Eskimo of Ungava (p. 750), graves (752), dog-calls (755-6), Eskimo burying-ground (756), dress, etc. of Nascoptes (759-760).

HANNAY, JAMES.—History of Acadia from its first discovery to its surrender to England by the treaty of Paris. St. John, N. B. 1879, p. 440.

Chapter II (pp. 29-58) is devoted to "The Aborigines of Acadia," and notices dwellings (46), methods of cooking (46), funeral ceremonies (55).

HARPER'S NEW MONTHLY MAGAZINE.—Vol. IV. pp. 690-692. Habits and character of the Dog Rib Indians.

Reproduced from Sir John Richardson's "Arctic Search Expedition."

HORETSKY, CHARLES.—Canada on the Pacific. Being an account of a journey from Edmonton to the Pacific by the Peace River Valley, and of a winter voyage along the western coast of Dominion, etc., Montreal, 1874, X, 244 pp.

Appendix I (pp. 210-224). "The Indians of British Columbia. General remarks on Indians, see pp. 103, 117, 119, 120, 128, 131, 149, 150, 151; Indian encampment 119-120; Indian village 128-129,

HOUGH, WALTER.—An Eskimo strike-a-light from Cape Bathurst, with six figures. Bulletin of U. S. National Museum, Vol. XI (1888), Washington 1889, pp. 181-184.

Describes Eskimo apparatus for obtaining fire. Figure 1 (p. 181) tinder-pocket; fig. 2 fire-bag; fig. 3 pyrites; fig. 4, 4^a striker and handles; fig. 5 (p. 183) using the strike-a-light; fig. 6 old French strike-a-light.

———. Aboriginal Fire-Making. Amer. Anthropologist, Washington. Vol. III (1890), pp. 359-371,

Contains Description of Huron Fire-making from Lafiteau (p. 362), Figure of pump-drill used by Onondagua Indians of Canada in 1888 (p. 364) with description of same (p. 365).

HUISH, ROBERT.—See Back, Capt.

HUNTER, A. F., B.A.—French Relics from Village sites of the Hurons. The Geographical distribution of these relics in the counties of Simcoe, York, and Ontario. Annual Report of the Canadian Institute. Session 1888-9. Toronto, 1889, pp. 42-46.

This valuable paper discusses in detail the important question of the distribution of French relics in the Huron region, with a tabulated statement showing their location.

IRISH, WILLIAM C.—In Report of Smithsonian Institution, 1879, p. 448.

Reports that mounds and graves occur two miles east of Brighton, Ontario, on Presqu'île Point; Similar mounds are on Redick's farm, four miles west of the first-mentioned.

JACK, J. ALLEN.—A sculptured slab found in St. George (Charlotte Co.) New Brunswick. Report of Smithsonian Institution, 1881, pp. 665-671.

Lengthy discussion of a stone with inscribed face found in Charlotte Country, N. B.

———. In Smithsonian Report, 1879, p. 48.

Notices stone images from New Brunswick, and sculptured slabs from St. Johns N. B.

JONES, J. M.—Kitchen-middens at St. Margaret's Bay, N. S. (from the London *Athenæum*). Report of Smithsonian Institution, 1863, (Washington, 1864), pp. 370-371.

Notice of shell-heaps and contents at St. Margaret's Bay, Nova Scotia.

MORICE, REV. FATHER A.G. O. M. I.—The Western Dénés; their manners and customs. Proc. Canad. Institute Toronto. 3rd Series, Vol. VII (1889) pp. 109-174.

Describes (p. 115) personal ornaments of Dénés, dress, dwellings (p. 117), methods of taking fish (pp. 129-130), canoes (p. 131), hunting (pp. 131-133), making of berry cake (pp. 133-4), baking of fern-root (p. 135); arts and industries (135-138), Canoes, birch-bark vessels (p. 136), Chilkotin baskets of spruce-root, (136), moccasins, etc. (p. 137), carving (p. 138), knives,

axes (p. 138), copper (p. 138); weapons (pp. 139-141), bone and flint arrows (p. 139), spear (p. 139), stone *casse-tête* (p. 140), armour (pp. 140-141), burial (pp. 145-146), masks (p. 151), games (pp. 154-155). The paper is accompanied by 16 figures as follows :

P. 167, fig. 1, carved totems, fig. 2, carrier harpoon ; p. 168, fig. 3, Chilkotin double-dart, fig. 4, bone corgone fry used as bait ; p. 169, fig. 5, horn dart, fig. 6, bark-bottle ; p. 170, fig. 7, bark peeler and cambium scraper, fig. 8, bone chisel, fig. 9, bone scraper ; p. 171, fig. 10 (5 cuts), Déné flint arrow heaps, fig. 11, bow-point, fig. 12, spear-head ; p. 172, fig. 13, stone *casse-tête*, fig. 14, bone triple arrow ; p. 173, fig. 15, funeral posts ; p. 174, fig. 16, horn ladle and spoon. The Indian tribes treated of here, live in the northern part of British Columbia, (that part originally known as New Caledonia).

MULLALY, JOHN.—A trip to Newfoundland. Harper's New Monthly Magazine, Vol. XII (1856), pp. 45-57.

Notice of Micmac village and wigwams (p. 56).

PATTERSON, REV. G., D.D.—The Stone Age in Nova Scotia, as illustrated by a collection of relics presented to Dalhousie College. Proc. and Trans. of the Nova Scotia Institute of Natural Science. Halifax N. S. Vol. VII (1889), pp. 231-252.

A most interesting and valuable detailed account of over 250 archaeological specimens from Nova Scotia, which, together with some 50 other specimens from other parts of the world, were presented to the Museum of Dalhousie College, by the Rev. George Patterson, D.D. of New Glasgow, N.S.

General description of places whence the relics were obtained, pp. 231-242. Description of prehistoric cemetery on the Big Island of Merigormish, and excavations made there in 1874, and relics found, pp. 231-237; skull, p. 232, axe, etc. p. 233, bones, 233, stone-implements, 233, stone spear-head, p. 234, stone-flakes, p. 234, quadrilateral stone implement, p. 235, copper-knives, p. 235, bone, fish-spear heads, pp. 235-236, stone pipe, p. 236, kitchen-middens and their location, pp. 237-239, kitchen-middens on the sea-coast, pp. 239-240, Palaeolithic and Neolithic remains, p. 240; description of kitchen-midden on the farm of Rev. A. P. Miller, Merigormish, from which about half the objects in the collection were obtained.

Pp. 242-252, are occupied with a detailed catalogue under proper heads of the various objects. A. Flaked and chipped stone, pp. 242-5. I. Objects of stone, pp. 243-249. Raw material, p. 242, irregular flakes of obsidian, p. 243, arrow-heads (from Merigormish, St. Mary's Antigonish, Annapolis and Lunenburg Co.), pp. 243-244, spear-heads, perforators, scrapers, cutting and sawing implements, leaf shaped implements, p. 244, large ovoid flat implements, p. 245. B. Pecked, ground or polished stone, pp. 245-249. Wedges or celts, p. 245, chisels, p. 246, gouges, adzes, hammers, cutting tools, p. 246, pendants and sinkers, discoidal stones, pierced tablet, stones used in grinding and polishing, p. 247, pestles, 247, tube, 248, pipes, 248-9, ornaments, vases, p. 249. II. Copper, pp. 249-250. III. Bone and horn, pp. 250-251, bone piercers, fish-spear heads, ivory harpoon points, p. 250, horn or ivory chisel, instruments of walrus ivory, instruments of uncertain use, p. 251. IV. Shell, (none from N.S.). V. Clay, pp. 251-252, fragments of pottery. VI. Wood, (no prehistoric objects found in N.S.).

PAYNE, F. F.—Eskimo of Hudson's Strait. Proc. Canad. Inst. 3rd Series, Vol. VI (1889), pp. 213-230.

Contains (p. 228), some remarks on Eskimo graves. Reprinted in pamphlet form 18, pp., Toronto, 1889. (Notice of graves on p. 16).

PIERS, HARRY.—Aboriginal Remains of Nova Scotia. Illustrated by the Provincial Museum Collections. Proc. and Trans. Nova Scotia Institute of Natural Science, Halifax, N.S. Vol. VII (1888-9), pp. 276-290.

A. Detailed descriptive catalogue of the archaeological specimens in the provincial museum. Introductory, pp. 276-7. I. Stone, pp. 277-288. A flaked and chipped stone, pp. 277-280. Raw material, flakes, unfinished arrow and spear-heads, p. 277, arrow-heads, p. 278, spear-heads, pp. 278-279, perforators, cutting implements, leaf-shaped implements, p. 279.

B. Pecked, ground and polished stone, pp. 280-288. Wedges, or celts, pp. 280-281, chisel, 281, gouges, adzes, p. 281, grooved axes, pp. 281-282 discoidal and implements of kindred shape, pp. 282-283, (two stones each resembling a coiled snake), pierced tablets, pp. 283-284, stones

used in polishing and grinding, p. 284, tubes, pp. 284-286, pipes, pp. 286-287, ornaments, pp. 287-288. III. Copper, (18 specimens), p. 288. IV. Bone and horn (piercer or fish-hook), p. 288. IV. Shells, (2 fine strings of wampum beads), pp. 288-289. V. Clay, (various fragments of pottery), pp. 289-290.

The very valuable and interesting paper of Mr. Piers is illustrated by a plate (Plate V of the volume), with 9 figures, the explanation of which is found on p. 311 as follows: Fig. 1. Pierced tablet from Smith's Cove near Digby. Fig. 2. Pierced tablet in Webster's Collection. Figs. 3 and 4, "Snake stone," presented by Mr. Gilbert Seaman of Ninudie. Figs. 5 and 6, "Snake stone," presented by Miss Frame, of Shubenacadie. Figs. 7 and 8 Pipe from Musquodoboit Harbor. Fig. 9. Pipe from River Dennis, Cape Breton.

POPULAR SCIENCE MONTHLY, THE.—Vol. XXXVII, (1889), p. 571.

Note on aboriginal mounds in Manitoba. See Bryce, Prof. G.

SCOULER, JOHN.—Observations on the indigenous tribes of the N.W. Coast of America. Journ. of Roy. Geog. Soc., London, Vol. XI (1841), pp. 215-249.

———On the Indian Tribes inhabiting the N. W. Coast of America. Edinburgh, New Philos. Journ. Vol. XLI (1846), pp. 168-192.

SELLAR ROBERT.—The history of the County of Huntingdon and of the Seigniories of Chateauguay and Beauharnois, from their first settlement to the year 1838. Huntingdon, P.Q., 1888, VIII, 584 pp.

Notices (pp. 4-5) mound on Nun's Island, and (p. 5) relics found in Chateauguay.

"Toronto Globe," Vol. XLVI, No. 190, August 9, 1890.

Contains on pages one and two, a lengthy article on Indian archæology, illustrated by numerous wood-cuts of specimens in the possession of the Canadian Institute, including stone and clay pipes, tubes, awls, totems, copper implements, etc., by David Boyle.

TRAILL, CATHERINE PARR.—The Canadian Crusoes; A tale of the Rice Lake Plains. Edited by her sister Agnes Strickland. 376 pp., Boston, 1881.

Contains: description of preparation of rice (pp. 203-204), mortars (204), stone-implements (p. 368), artistic work (pp. 375-6).

TURNER, LUCIEN M.—The single-headed drum of the Naskopie (Nagnagnot) Indians, Ungava District, Hudson's Bay Territory. Bullet. of U. S. National Museum, Vol. XI (1888), Washington 1889, pp. 453-4.

WARD, C. C.—Moose Hunting. Scribner's Magazine, Vol. XII (1877-1878), pp. 549-465.

Contains (p. 464) notice of a stone medallion found at St. George, New Brunswick, and wood-cut of same on page 465.

WILSON, SIR DANIEL, LL.D., F.R.S.E., etc.—Trade and Commerce in the Stone Age Trans. Roy. Soc., Canada, Sect. II, 1880, pp. 59-87.

Contains of the Canadian flints (pp. 71-72), obsidian (79), pipes Chippewayan (81), Assiniboian (81-82), Chippewa (82), stone relics (85), spear-points (85), flints in Nova Scotia (86).

YOUNG, REV. EGERTON R.—By Canoe and dog train among the Cree and Salteaux Indians. Toronto, 1890, pp. 267.

Describes: Making of birch-bark canoes (pp. 72-75), dog-sleds (95-6), cabin (206), full-page illustrations of dog-feast (213), bone-fish-hook (235).

THE ALGONKIAN INDIANS OF BAPTISTE LAKE.

BY A. F. CHAMBERLAIN, M.A.

During the month of September, 1890, the writer (in company with David Boyle, Esq., Ph. D. and Dr. Beament of Bancroft) paid a visit to the northern portions of the county of Hastings, in the Province of Ontario. Among the places visited was Baptiste Lake, situated about ten miles from the village of Bancroft. On the islands and shores of that body of water reside some twenty Indians, of Algonkian stock. They are Catholics, and a priest comes to them from time to time to dispense the comforts of religion. Formerly the Indians roamed over the region in question to a very great extent, but now, excepting the settlement on Baptiste Lake, there are few Indians residing in it. At another part of the lake there is an isolated settlement of Mohawks.

On the island visited, dwell, besides other Indians, Panā'sawa Ekwō'satsh and his family. François (which Indianised becomes Panā'sawa) speaks English (fairly well), Indian, and French-Canadian. His wife speaks Indian and very little English. Their son John, about twenty-five years of age, speaks English best, having forgotten some of his mother-tongue. François' little boy (about 7) speaks Indian only.

The art of making birch-bark canoes is known only to a very few Indians in the settlement, besides Ekwosatsh himself. Not the least interesting portion of the time spent at his house was passed in watching the construction, by himself and wife, of one of these canoes. Some of these vessels are still made without any of the additions due to the superior civilization of the white man, such as leather, nails, etc., but very many of them contain these articles to such an extent as to be of little value as specimens of aboriginal workmanship. The mode of constructing a birch-bark canoe is after this fashion: First, the bark (tchimā'n tch'igwē) is selected from the best tree in large pieces, as free from knots and blemishes as possible. The mould or form (ndeskōdjigān), around which the shell of the boat is to be built, is then set up. The piece, of bark in approximately fixed positions are then steamed by filling the canos (in process of building) with water and throwing heated stones into it. The bare then being forced into proper shape and position is sewed with the spruce-rook fibre (wā'tāp), and the little interstices and seams are covered with a sort of pitch procured from the pine or some like tree. The various strengtheners, side-pieces, and thwarts are added from time to time as the construction progresses. The names of the various parts of the canoe are as follows:

ENGLISH.	INDIAN.
Bow	Ekwā'djawā'nuknī'tamō'nani'guk.
Stern	[ō'] takā'ning.
Thwarts	Mī'tasóg.
Lisses	Pī'mikwā'nik.
Ribs	Wā'ginā'k.
Laths along top of sides	Pī'tibí'gē'gun.
Pegs	Kizikatāskwān.
Mould	Ndeskō'djigān.
Paddle	Abwī'.
Bark	Tchimā'n tch'igwē.
Stones used to steam bark	Assī'nin.

Indians here do not practice the art of making birch-bark baskets, or the grass-woven pails and other vessels found amongst other tribes of similar stock. Much of their folk-lore and traditions is now forgotten, but Ekwasatsh had the reputation of remembering as much of the lore of his people as any Indian in the settlement. He was not at all acquainted with the name Nanibozhu, but was quite familiar with Wiské'tchak (another Algonkian name for this demi-god), who he said was a "big man, two hundred feet long." The legend of Assemó'ka" (see Journ. Amer. Folk-Lore III. pp. 149-150), was quite unknown to him. When some of the party were approaching a cave in a high hill, some distance from the island, a noise was heard proceeding from it, whereupon John (the son of Ekwasatsh), who was guiding them, declared that it was made by a Windigū.

Mr. Mackintosh, school inspector for North Hastings, informed the writer that the Algonkian Indians in his county are still afraid of the Mohawks, and a young Indian, whom he employed to paddle his canoe in the far north of the county, could scarcely hear the name Mohawk mentioned without showing signs of great fear. Panā'sawa Ekwō'satsh claims that the Mohawks were badly defeated by his people, and took great pleasure in relating the legends here recorded.

LEGEND I.

Ekwasatsh says he heard this from his father's grandfather Mishitō'gon, after whom Lake Mishitō'ga was named, and he claims to be the only one in the settlement who knows it.

Kī'mīgātñōwun kī'sa kákiná Mítchīnā'tōwék. Ngī'zhīnā'zhawuk wūdō'dē

There had been men at that lake; they killed them all, the Mohawks. I sent one Mítchī nā'tōwē' ōdē'ning kā'mingk. Pē'zhik, pítchī pātū mítchī nā'towé ōdē'nonk family opposite Mohawks to the village on the other side. One comes running, Mohawks, ōntchīpī. Ázhewē' wī'sinik ndainā'nik. Geshwā'bung kikākā wā'banúnk from the village. Our dog is hungry. To-morrow you will see him, to-morrow you are ázhaiyā bī'zhīmū'sek sagā'iguning. Mīgā'kī mīnā'gon ō'gwanē'nik kūkínna coming to the lake. They turn to fight us, all we kill, we did not kill all except two gīnésunā'nik; ninníshkunā 'pīnō'djinshúk nīzh mī'shīdō'nga sā'igun katinúk children, two, at Mishitoga Lake, them all we kill, the Mohawks, in the town.

kā'mikút mítchī nā'tōwē' ōdénongk. Pī'bung Kítchīgizis (1) katinúk ka'mīgút

In winter, February, them all we kill.

nīzh gīmadjōnóg ōdénongk. Nēōōdēnōwun mítchī nā'tōwē [————] ázhaiyē

Two, I took them to (my) town. Four towns, Mohawks, [I destroyed]. I am

mīgiwē nīshtagánk. Madjōnóg n'dō'shkinī'gimuk.

going home to our own village. I took them away home.

LEGEND II.

(Related by Ekwo'satsh.)

Pēzhik nāwīndōmāgwā'nun mādawā'skug shawā'skongk. Wēzhītag. Ázhaiyē

One came and told us at the Cranberry Marsh. Get ready! They pā'tinúg nīsā'ndōwék. Wā'bung gīzhā'min pēzhik nin nishnā'bek. Pāwittigúnk come down. Next day I take up this one? people. They watched them

(1) Kitchigizis (i.e. big month) is now the Indian name of February, but Ekwo'satsh said that formerly it was called Nāwēndō'dzh.

ndukkā'mawā'nanik sī'bing (2). Ashinwā'bāmā'nanik sī'bing pīzhīmshikog
 come down the river. We see them coming in the river in the middle,
 pātindōntchimā'n mā'yāōwā'nikūm. Azhaiyē win sīgōnā'nik kā'win mī'naswā-
 lots of canoes [come down] the portage. They try to kill us not, we did not
 'nā'nanik bū'shkaswā'nanik Nānin kanāpikog. Mitchi pū'kitē wū'nunik
 give them battle at all, we clubbed them
 pawē'tigunk sibíng.
 at the river.

According to Indian tradition a great fight took place at Weslemkoon Lake, one March day, years ago. This legend was told by an old Indian chief, who died some time ago, after removing to Oka.

NAMES OF LAKES AND RIVERS.

There are some very interesting names of streams and lakes in the region visited. The writer was fortunate enough to obtain from Ekwō'satsh the Indian names of many of these, with their etymological significations.

1. York River. No Indian name known.
2. Baptiste Lake is called Assīntōwā'ningk, signifying the lake where they "hunt with a long pole for fish (at night)."
3. L'Amable Lake, Kāwā'ndjiwē'gamug, expressing the idea of "large hills going up, see lake," as Ekwō'satsh put it.
4. Weslemakoon Lake. The name of this large body of water was given variously by residents in its vicinity. The writer met the following forms: West Macoun, Westlemakoon, Weslemakoon, Weslemkoon, Westnamaakoon. The Indian name is sinímikū'ung, which signifies where "the beaver makes a hole in the rock."
5. The "narrows" at Weslemakoon Lake are called, by the Indians, Otā'shiwun.
7. Otter Lake translates Nīgik Sā'igun.
8. Bow Lake translates Tigwā'bi Sā'igun.
9. Mink Lake translates Shangwē'si Sā'igun.
10. Mink River translates Shangwē'si Sibi.
11. Papineau Lake is called in Indian Mī'shiwī Sāigun, "beaver-house lake."
12. Mississippi River is called S'nī'mikō'bī, "beaver creek."
13. Elephant Lake is called Obā'kadjishkawā' kuk, "where it is all dry, etc."
14. Bunor's Lake, Tā'gwā'kúshiwē'ning, "place where they camp in the fall."
15. Mishitoga Lake is called Mī'shitōnga Sā'igun, after a chief of that name.
16. The Madawaska is called Mā'dawā'skug.
17. An old beaver-dam some distance above Ekwō'satsh's house was called Kwē'nim.
18. A high granitic bluff near Bancroft, known as the "Eagle's Nest," is rendered into Indian as Kīniū Wā'bik (eagle-rock).
19. The Ottawa is termed Tchī Sī'bī, "the great river."

(2.) Egan "Shute."

(1.) This is the name of "a big marsh thirty miles from here, called Conroy's marsh."

20. The Indian name of the St. Lawrence is 'Tehigá'mi Sibī, "the sea-river."

21. The island on which Ekwó'satsh lived he called Mí'nitik, a name given to an island in a river.

LANGUAGE.

Besides the legends and proper names given above the writer obtained from Ekwó'satsh a vocabulary of some 150 words. The language is that of the Nipissings of Oka, at which place Ekwó'satsh had formerly been.

VOCABULARY.

ENGLISH.	INDIAN.
Apples	Wā'bimínuk (<i>i.e.</i> white fruits).
Apple-tree	Wā'bimínigunsh.
Bark	Tchīmā'n tchígwē.
Barley	Wā'iyadā'gān.
Barley-flour	Wā'iyadā'gān nāpānē'nuk.
Beans (white)	Sā'insun.
Beans (another kind)	Witisā'in.
Beaver	Amík.
Bed	Nipā'gun (from nīpa, I sleep).
Beech	'Shawē'mish.
Beef	Tikwē'yoth.
Beets	Miskikadē'yak (red turnip).
Blackberry (long)	Otā'tāgā'kōmin.
Blanket	Wā'bōwē'yan (white skin).
Bow (of boat)	Ekwā'djaā'wnuknī'tamō'nani'guk.
Bowl (of pipe)	O'shtigwan (<i>i.e.</i> , head).
Bread	Pukwē'zhigan (that which is cut).
Butter	Tōtō'shmitē (teat-grease).
Butternut	Pakanō'kōmish.
Cabbage	*Tēshū (Fr. des choux).
Cabrestan (for warping logs)	Tēdibā'yakwē'gun.
Canoe	Tchimā'n.
Carrots	Kā'tēyā'bīsun.
Cat	Kā'djagōnsh.
Cedar	Kī'zhik.
Ceiling (laths)	Pitustehigā'nuk.
Chair	Tē'sibiwā'gun.
Cheese	*Tchīs (Eng. cheese).
Cherries	Migwā'shimish.
Chew (to—tobacco)	Tākwā'men sē'ma.
Coffee	*Kā'pē (French café).
Come	Andi wéndipun (wheredo you come from).
Coal oil	Mināguk pimitē.
Corn	Māndā'min (mysterious seed).
Cow	Ati'k.
Crib	Opindisā'gun.
Crib-oars	Shā'bōdja'nak Opindisā'gun.
Cucumber	*Pikwā'komb (Fr. de concombres).
Cup	Nāgúnson.

VOCABULARY—*Continued.*

ENGLISH.	INDIAN.
Cup and saucers	Ní'bishwā'bōnā'gons.
Currants (red)	Mí'shidjī'minúk.
Deer	Washkē'shī.
Dog	Animū'sh.
Door	'Skwāndeb.
Figs	Kínūkitné'minúk.
Fire	Ishkwedē'.
Fir	Shíngōbík.
Floor	Mitchi'sug.
Flour	*Nā'panē nuk (plural from F r. la farine).
Fork	Pātukā'igun.
Fox	Wāgūsh.
Goose	Wā bikā.
Gooseberries	Shā'bōminúk.
Grapes	Shāwē'minin.
Grape-vines	Shāwē'mish.
Hat	Tē'sēō'kwān.
Hemlock	Kāgā'kōmish (raven-tree).
Hickory	'Tigwā'bak.
House	Wikwam.
Huckleberries	Mí'nin (<i>i.e.</i> the fruits).
Ironwood	Mā'nin.
Kettle	Akikōns, ātikōns.
Knife	Wísniwā'gō mō'kōmon (<i>i.e.</i> tableknife).
Lamp	Wā'skōnéndjigun.
Laths	Pitustchigā' nuk.
Lime	Wābāzhéskī.
Lisses (of canoe)	Pí'mikwā'nik.
Logs (of which house is made)	Wikwā'mākug.
Loon	Mangk.
Maple (soft)	Tchigōmē'mish.
Maple (hard)	'Ninā'tuk.
Maple-sugar	Ninā'tuk sínzhabā'kwāt.
Maple-syrup	Tchiwā'gamí'shigān.
Marten	Wā'bī'shē'shī.
Melon (musk)	*Temā'nōn (Fr. de melons).
Melon (water)	Askipōgwissimān.
Milk	Tōtōshwā'bō (teat-liquid).
Mortar	Wābāzhéskī.
Mould (for canoe)	Ndeskō'djigān.
Muskrat	Wāzhéshk.
Mustard	*Lemūtā'd (Fr. le mutard).
Mutton	Mantché'npwī'yō'th.
Oak (black)	Mitigōmish.
Oak (red)	Mitigōmish.
Oak (white)	Mishi'mish.
Oar	Onsun.
Oats	Mānō'min.
Oil	Pimitē.

VOCABULARY—*Continued.*

ENGLISH.	INDIAN.
Otter	Nigík.
Paddle	Abwí.
Pears	Wá'biminuk (white fruits).
Pegs (of canoe)	Kizikatáskwān.
Pepper	*Djepwē'v ; *tepwē'bun (Fr. du poivre).
Pillow	Pikwē'shimun
Plates (little)	Tésinā'gons.
Pine	Shingwák.
Pine	Kwikens.
Pipe	Poá'gun.
Pipe-bowl	Oshdigwán (its head).
Pipe-stem	Kidjá'tik.
Plum-tree	Pá'gesā'nimish.
Plum-stone game	Pá'kó'minán.
Pork	Kōkō'shwinín.
Pork-grease	Kōkō'shmitē.
Pot	Akík, 'tchākík (large pot).
Potatoes	*Pata'kun (Fr. patate).
Punt-oar	O'nsun.
Raccoon	Esībún.
Raisins	Shāwē'minín.
Raspberries	Mískwē'minu'k (red fruits).
Rats (house)	Wā'wā'bigōnōzhishúg.
Reindeer	Aní'natik (true deer).
Ribs (of canoe)	Wā'ginā'k.
Rock	Tchí'pikwā'bik.
Roof	'Pukwā'ning.
Rope	Sesub.
Rye	Kāwā'djashidjē'djuk.
Rye-flour	Kāwā'djashidjē'djuk nāpānē'nuk.
Salt	Shí'ūtā'gun.
Sheep	Mantché'nish.
Sheet	Tā'tāgō'kwāwā'djigun.
Skunk	Shikóg.
Smoke (to — tobacco)	Sagúswē.
Spruce	Miná'ik.
Spruce roots	Wā'tāp.
Stem (of pipe)	Kidjá'tik.
Stern (of boat)	[O] takā'ning.
Stones	Assí'nin.
Stove	Piwā'pikésigun.
Stove-pipe	Wābikwē'gun kwāndā'gunun.
Strawberry	'Tē'min.
Sugar	Sínzhabā'kwät.
Sugar (maple)	'Ninā'tuk sínzhabā'kwät.
Sumac	Kakākí'mitō'akunsh.
Syrup (maple)	Tchíwā'gamí'shigān.
Table	Wísnewā'gun.
Tamarack	'Skegwā'tik.

VOCABULARY—*Continued.*

ENGLISH.

INDIAN.

Tea (dry)	Ní'bish.
Tea (liquid)	Ní'bish wá'bo.
Thwarts (of canoe)	Mítasóg.
Tobacco	Sé'ma.
Tomatoes	Kōpústiyāgun.
Tree	Mitík.
Turnip	Kādē'yab.
Upstairs	Pimī-ā'gunk.
Venison	Wāshkēshwiyóth.
Vinegar	*Pinē'gān (from Fr. vinaigre).
Wall (of house)	Nē'yagwíkwam.
Water	Nipí.
Wheat	Mí'siminēnuk.
Where	Andī kō'zkon? (where have you been?).
Whiskey	Skō'dēwā'bō (fire liquid).
Who	Wē'nen kīn? (who are you?).
Window	Sābwā'gun.
Wolf	Māyínggun.
<i>Lynx</i> Wolverine	Pizhū.

In the above vocabulary the consonants have their ordinary English sounds.

The long vowels have the continental sounds; *e* is the sound in the English *left*; *a* the sound in *am*; *o* the sound in *not*; *u* the sound in *but*; *ǎ* is a sound approximating to this last, but not so short and dull; *d* and *t*, *b* and *p*, *k* and *g* often interchange. The accents are marked, but in the case of dissyllables the stress is often equally distributed. The same word is not always pronounced by the same individual in exactly the same manner.

The French and English loan-words, which occur in the vocabulary, are marked thus (*). As seen from a vocabulary of the Mississagas of Skugog obtained in 1888, the Baptiste Indians would seem to denote certain objects by names quite different.

ENGLISH.

BAPTISTE LAKE (1890).

MISSISSAGA (1888).

Bark	Tchígwē.	Wígwās.
Bean	Wítisā'in (pl.)	Míshkōdísimin.
Beets	Mí-kíkādēyak (pl.)	Mískōtchís.
Carrots	Kātēyā'bísun (pl.)	Osāwatchīs.
Fire	Ishkwedē	Iskētūk.
Hat	Tésēō'kwān	Wiwákwān.
Pepper	Tepwē'bun	Wā'sakon.
Potato	Patā'kun (pl.)	Opín.
Turnip	Kādēyab	Tchís.
Window	Sābwā'gun	Wasā'djakan.

The Nipissing and Mississaga dialects, on the whole, however, closely resemble each other.



Ontario Provincial Museum

5th

ANNUAL ARCHÆOLOGICAL REPORT

AND

CANADIAN INSTITUTE,

(SESSION 1891),

BEING

AN APPENDIX

TO THE

REPORT OF THE MINISTER OF EDUCATION,

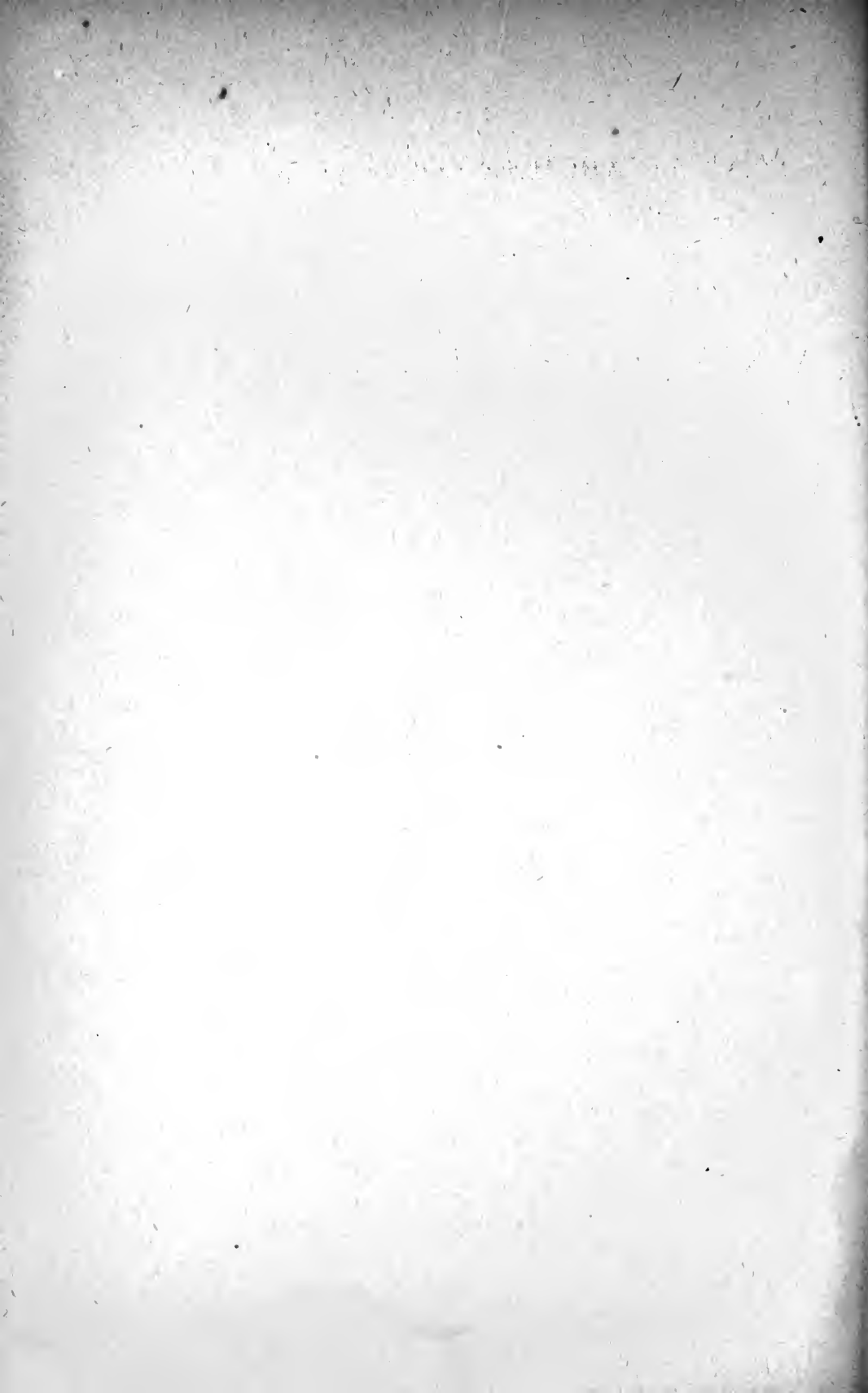
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ARCHÆOLOGICAL REPORT.

BY DAVID BOYLE.

To the President and Members of the Canadian Institute :—

GENTLEMEN,—Our year's work has been successful, and I am able to announce augmented interest in archæological matters, beyond the limits of the Institute. The increase of correspondence alone has been considerable and has occupied an unusually large portion of time. Many of the letters received are from farmers and young people; from the former, generally, with regard to features observed on the farm, and from the latter, asking for information about specimens they have found, and where they may procure books that will lend them assistance in prosecuting the study of archæology. In a large number of cases correspondents ask for copies of our reports, but these, I am sorry to say, we cannot always send, as the issue is too small to supply the increasing demand.

During no other period since the commencement of this work have so many requests and invitations been received to go here and there for the purpose of examining this or that locality. Only want of time and means has prevented this being done in many cases. It is hoped, however, that much of such work may be overtaken during the next year, especially in some of the newer parts of the country, where the conditions for investigation are superior to those of the old settlements.

With the increase of interest manifested in this study, two types of individual are particularly noticeable. First, there is the man of true scientific instinct, who says, in effect, "I am glad this work is going on, and it is my intention to help it in every way I can," and, secondly, there is the sordid, mercenary man, who says in effect also, "I am glad this work is going on, and it is my intention to help it in every way I can, *so long as I can make anything out of it.*" We have to thank both for much valuable assistance rendered during the year.

Again also, we are indebted to the Legislature of the province for the aid extended to our work. Without it, absolutely nothing could have been done, except in a very perfunctory sort of way.

Up to the present time, one of the chief drawbacks to the museum has been its undesirable situation on a third storey. It is hoped that the new arrangements entered into will render it more attractive to the general public. Hereafter, with the approval of the Minister of Education, the Museum will find accommodation in the building of the Toronto Public Library, where it will be open

daily, (all day, and not only during afternoons as formerly). This arrangement however, affects only the *exhibition* of the specimens. As heretofore, the archæological work will be under the direction of the Canadian Institute, and will be as purely provincial in its character as it has always been.

During the year we have been under especial obligations to Hon. Peter McLaren and Mrs. McLaren, of Perth; Dr. T. A. Beeman, of Bancroft; Dr. T. W. Beeman, of Perth; Dr. M. I. Beeman, of Centreville; Mr. Arthur Brown, Public School Inspector, Morrisburg; Mr. Archibald Riddell, Bancroft; Mr. Fred. Mullett, Bancroft; Mr. John Bell, ex-M. P. Lennox and Addington; Mr. Chester Henderson, Southwold; Mr. D. H. Price, Aylmer; Mr. J. H. Coyne, St. Thomas; Mr. J. H. Crouse, Brantford; Messrs. McCrossen, Osborne and Bend, of Penetanguishene; Mr. W. H. Jones, Vancouver City, British Columbia; Mr. T. Sydney Dobbin, Esquimalt, British Columbia; Mr. Alan Macdougall, Toronto; Capt. David Allan, Elora; Mr. Jas. Bolan, Springfield, Mass.; and to Messrs. W. J. Morris, Harry Morris, Jas. Knox, J. S. Wilson, Cyrus Davis, Nelson Covell, E. M. Morgan, Andrew McCoy, Andrew Drummond, Thos. H. Scott, Matthew Scott, Mrs. Sherritt, James King, James McLaren, Geo. Hone, Geo. Carpenter, Chas. Mackey, John P. Fraser, J. F. Kennedy, Jas. Graham, Thomas Moffat, J. W. Borrowman, Jas. Jackson, Mrs. Smith, W. H. Blair, Daniel McDonald, James Walker, John Coutts, R. McLean, John F. Moore, Andrew Paul, Miles Brown and Austin Keays, all of whom have contributed through Dr. T. W. Beeman, to make the collection from Lanark county as nearly as possible a thoroughly representative one.

Mr. W. J. Moule, the artist, has taken pains to make the drawings for this report as accurate as possible, and the engravings made by the Central Press Agency have been capitally reproduced, by the photozincographic process.

NOTES.

"The student who applies the comparative method to the study of human customs and institutions is continually finding usages, beliefs, or laws existing in one part of the world that have long since ceased to exist in another part; yet where they have ceased to exist they have often left unmistakable traces of their former existence. In Australia we find types of savagery ignorant of the bow and arrow: in aboriginal North America, a type of barbarism familiar with the art of pottery, but ignorant of domestic animals or of the use of metals; among the earliest Romans, a higher type of barbarism, familiar with iron and cattle, but ignorant of the alphabet. Along with such gradations in material culture we find associated gradations in ideas, in social structure, and in deep-seated customs. Thus some kind of fetichism is apt to prevail in the lower stages of barbarism and some form of polytheism in the higher stages.

"In the most advanced societies we find numerous traces of such states of things as now exist only among savage or barbarous societies. Our own ancestors were once polytheists, with plenty of traces of fetichism. They were organized in clans, phratries, tribes. There was a time when they used none but stone tools and weapons, when there was no private property in land, and no political structure higher than the tribe. Among the forefathers of the present civilized inhabitants of Europe are unmistakable traces of human sacrifices, and of the reckoning of kinship through the mother only. When we have come to survey large groups of facts of this sort, the conclusion is irresistibly driven home to us that the more advanced societies have gone through various stages now represented here and there by less advanced societies; that there is a general path of social development, along which, owing to special circumstances, some peoples have advanced a great way, some a less way, some but a very little way, and that by studying existing savages and barbarians we get a valuable clue to the interpretation of pre-historic times. All these things are to-day common-places among students of history and archaeology; sixty years ago they would have been scouted as unintelligible and idle vagaries. Yet to this change is entirely due the superior power of modern historical methods. Formerly the historian told anecdotes or discussed particular lines of policy; now he can do that as much as ever, but he can also study nation-building, and discern some features of the general drift of events from the earliest to the most recent times."—*John Fiske, Pop. Science Monthly, Sept, 1891. pp. 585. 586.*

With the advance of time, interest increases in all that relates to the early condition of man. The words *ethnology*, *anthropology* and *archæology* are rapidly becoming as common as *geology*, *astronomy* and *geography*. Everything that illustrates a point in the life-history of existing primitive peoples is carefully noted; comparisons instituted, and conclusions either arrived at or attempted. A German traveller recently discovered a tribe of cave dwellers in Africa, and, thereupon, curiosity was aroused as to how the manners and customs of these modern troglodytes would bear out conclusions arrived at from an examination of ancient cave-dwellings in France, Belgium and England. Notwithstanding racial distinctions and lapse of time, the results of the comparison were said to be highly satisfactory.

But, although much has been written, especially during the last half century, on the beginnings and growth of society, one still hears a frequent repetition of the query, What does it matter to us how a lot of savages lived a hundred or a thousand years ago? A query of this kind always embodies a sneer; a sneer implying that time devoted to such matters is spent foolishly or absolutely thrown away.

"We are too apt," says Reclus,* "to look down scornfully from the heights of modern civilization upon the mental processes of former times, upon the ways of feeling, acting and thinking, which characterise human aggregations anterior to our own. How often we scoff without knowing anything about them! We have fancied that the ethnology of inferior races was nothing but a medley of

* Elie Reclus in "Primitive Folk," 1890, p. vii.

nonsense ; and, in fact, prejudices appear doubly absurd when we do not possess the key to them. We have ended by believing that there is no intelligence but our own, no morality that does not fit in with our formulas. But who are we that we should take up such a lofty position with regard to the intellectual and moral weakness of those who preceded us? There is a lesson to be learnt, if we take the pains to look for it, in these errors through which the human race has passed, these illusions which it has left behind. They are no mere anomalies or sports of chance launched forth into empty space ; they have been produced by natural causes, in natural, and we may say, logical order. * * * The whole series of superstitions is but the search for truth amidst ignorance,”

A common error regarding savages is that they have lived, or still live, in a state of chronic war and bloodshed, either with their neighbours or among themselves ; a moment's consideration should suffice to show the fallacy of this view, for besides the very considerable amount of time required to provide food and the material for clothing, many, many days and weeks of patient labour were spent in flaking flints, chipping and polishing celts, boring holes in implements of various kinds, and in fashioning what, to us, are mysterious objects, so far as their use is concerned.

Misconception of this kind is likely to arise from the perusal of “penny dreadfuls,” and even from books of professedly higher aim, where the savage is never introduced without a “diabolical grin on his countenance, a war-club in his blood-stained hand,” and “his dishevelled locks matted with the gore of his innocent victims.”

Prince Kropotkin* on this point remarks, “At no period of man's life were wars the *normal* state of existence. While warriors exterminated each other and the priests celebrated their massacres, the masses continued to live their daily life, they prosecuted their daily toil. And it is one of the most interesting of studies to follow that life of the masses ; to study the means by which they maintained their own social organisation, which was based upon their own conceptions of equity, mutual aid, and mutual support of common law, in a word, even when they were submitted to the most ferocious theocracy or autocracy in the state.”

The myths and superstitions of primitive folk, their social organization, their germs of constitutional government, their daily occupations, their forms, ceremonies, games and amusements, the mechanical methods and devices they employed, and the examples of their handicraft—all these must ever possess an increasing interest to thoughtful persons generally, but more especially to those whose desire it is to study civilisation “in its wide ethnographic sense” as “that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society.” “Even when it comes to comparing barbarous hordes with civilised nations, the consideration thrusts itself on our minds, how far item after item of the life of the lower races passes into analogous proceedings of the higher, in forms not too far changed to be recognised, and sometimes hardly changed at all. Look at the modern European peasant using his hatchet and his hoe, see his food boiling or roasting over the log fire, observe the exact place which beer holds in his calculation of happiness, hear his tale of the ghost in the nearest haunted house, and of the farmer's niece who was bewitched with knots in her inside till she fell into fits and died. If we choose out in this way things which have altered little in a long course of centuries, we may draw a picture where there shall scarce be a hand's breadth difference between an English ploughman and a negro of Central Africa.”†

* “Mutual Aid Among Savages,” *Nineteenth Century*, April, 1891, p. 559.

† “Primitive Culture,” by Edward B. Tylor, London, 1871, vol. 1, p. 6.

Except, perhaps, in the matter of house accommodation, it might not be difficult to prove that the every-day life of the old American savage was superior to that of peasants in some civilised communities to-day. This, not so much to the credit of the Indian, as to show that modern society in at least a few of its phases, has not made all the advance it was capable of making, or that we have a right to suppose it should have done.

In the region of the æsthetic, the Indian, even of this northern latitude, occupied an immensely higher plane than the class just mentioned. He understood the effect of colour, and employed it to some purpose, both in personal decoration and on articles of manufacture; his sense of the elegant in form is well illustrated in the graceful outline given to many of his coarse clay vessels, his pipes of stone and clay, and in the great variety of beautifully fashioned objects which are known to us, for the want of a more definite name, as "ceremonial" weapons. In the adornment, too, of his clay pipes and pots he attempted to please the eye by means of depressed lines, dots and circles, to form patterns, some of which are both regular and complicated.

Morally, his code may not have been a very high one, but religiously, he may fairly be placed among the first of animists. To him, everything visible and tangible was the abode of a spirit. When he dreamt of anything he must obtain it, lest his spirit should forsake his body to fraternise with the spirit of what appeared to him in his sleep; or his dream was a visit paid to him from the soul of the subject of his dream.* According to Morgan† the Iroquois used to make a hole in the grave to facilitate the passage of the soul from and to the body, and more recently it was customary to bore one or more holes in the coffin for a similar purpose.

Sagard informs us that the soul of the dog, went to serve the soul of his owner in the Spirit-land.† Of nothing concerning the Indians are we more certain than of his pan-spiritism—all the early writers referred to this belief. Not only were natural objects thus regarded, for weapons, tools, ornaments, war-paint and all other objects, partly or wholly manufactured, were similarly possessed. Hence the custom of placing those articles in graves.

"That the purpose of such offerings is the transmission of the objects' spirit or phantom to the possession of the man's, is explicitly stated as early as 1623 by Father Lallemant: when the Indians buried kettles, furs, etc., with the dead, they said that the bodies of the things remained, but their souls went to the dead who used them. The whole idea is graphically illustrated in the following Ojibwa tradition or myth. "Gitchi Gauzini was a chief who lived on the shores of Lake Superior, and once, after a few days' illness he seemed to die. He had been a skilful hunter, and had desired that a fine gun which he possessed should be buried with him when he died. But some of his friends not thinking him really dead, his body was not buried; his widow watched him for four days, he came back to life, and told his story. After death, he said, his ghost travelled on the broad road of the dead toward the happy land, passing over great plains of luxuriant herbage, seeing beautiful groves, and hearing the songs of innumerable birds, till at last, from the summit of a hill, he caught sight of the distant city of the dead, far across an intermediate space, partly veiled in mist, and spangled with glittering lakes and streams. He came in view of herds of stately deer, and moose, and other game, which with little fear walked near his path. But he had no gun, and remembering how he had requested his friends to put his gun in his

* Nouvelle France, Charlevoix, vol. vi., p. 78.

† Iroquois—Morgan, p. 176. ‡ Histoire du Canada, Theo. Sagard p. 497.

grave, he turned back to go and fetch it. Then he met face to face the train of men, women, and children who were travelling toward the city of the dead. They were heavily laden with guns, pipes, kettles, meats, and other articles; women were carrying basket-work and painted paddles, and little boys had their ornamented clubs, and their bows and arrows, the presents of their friends. Refusing a gun which an overburdened traveller offered him, the ghost of Gitchi Gauzini travelled back in quest of his own, and at last reached the place where he had died. There he could see only a great fire before him and around him, and finding the flames barring his passage on every side, he made a desperate leap through, and awoke from his trance. Having concluded his story he gave his auditors counsel that they should no longer deposit so many burdensome things with the dead, delaying them on their journey to the place of repose, so that almost every one he met complained bitterly. It would be wiser, he said, only to put such things in the grave as the deceased was particularly attached to, or made a formal request to have deposited with him."*

Perhaps it is in some degree owing to this belief in universal spirit possession that our northern Indians so seldom ventured to fashion anything immodest, or even suggestive. That it was not for the want of mechanical ability we know—the multiplicity of designs in clay, stone and bone sufficiently attest this, but whatever the reason may have been the almost entire absence of such objects is a noteworthy fact, when taken in connection with the early records relating to all the tribes in this part of America.

Among North American Indians, perhaps the Cherokees deserved least credit for their good taste in this respect, but even they compare favorably with the peoples of South America.

While many specimens, (especially flaked ones) found in different parts of the province, may be classified as palæoliths, they have, up to the present time always been found associated in such a way with neoliths that it is impossible to designate them as palæoliths with any degree of certainty. Leaf-shaped "flints" have been picked up that are quite as rudely formed as any from the deepest stalagmite deposits of Europe, but never in situations to suggest that they are other than rough-hewn tools or weapons, which, as such, had a purpose in the economy of people who were capable of producing better things. Until we find specimens of this kind, as Dr. Abbott found them in the Trenton gravels, or in some situation isolated from all others, or distinct as to material or coating from specimens of a superior quality in the same neighborhood, we shall not be warranted in making any distinction relative to time of possible production. Those that approach most nearly to satisfying some of those conditions, and now in the museum, were found on the farm of Mr. Seabrook, near Komoka in Delaware township. Nearly seventy were found in a "nest" only a few inches below the surface. In appearance they bear every mark of being much older than other specimens found in the same district, but unfortunately among the lot as forwarded to us was an arrow-head of decidedly more recent type, and Mr. Seabrook asserts that it was found along with the rest. A further reference to these, with two cuts, may be found in the Archæological Report for 1886-7 p. 45.

*Primitive Culture, Tylor, vol. 1, pp. 434, 435.

SOUTHWOLD EARTHWORK.

A former examination of this remarkable earthwork in company with Dr Tweedale having proved unsatisfactory for want of time, the place was visited again last May by Mr. Jas. Bain, Mr. W. H. Jenkins and myself, Mr. Chester Henderson the proprietor, and Mrs. Henderson doing everything possible to facilitate the object we had in view.

It was thought that a close scrutiny might lead to the discovery of the remains of palisades, as in the case of the Beverly works [Can. Inst. Ann. Rep. 1886-7, p. 11] but in this we were disappointed. We uncovered the banks at various points, by removing the sod to the depth of several inches, but no trace of palisades was found anywhere. At a place near the south-east point, where the outer bank measured seventeen feet across the base, and was three and a half feet above the adjacent level, we made a cut the whole depth exposing a clean section, which showed very clearly the structure of the work, on account of the admixture of dark and light-coloured mould as it had been thrown up by the builders.

A large number of test-holes, made in various parts of the enclosed area, proved the existence of various ash-heaps. Some fragments of pottery and deer-horn were found.

MALAHIDE.

The people who at one time held the ground now included in the county of Elgin, have left many evidences of their fondness for the throwing up of embankments, of which the most remarkable is that in the township of Southwold, already referred to. But others are reported in various parts of the county.

In Malahide township there are several works of this kind, a few of which we examined. On the farm of Mr. Stephen Pound, lot — concession 7, is a plateau, some three or four acres in extent, the sides of which facing the north-east and south-east respectively, are unusually steep and from fifteen to twenty-five feet in depth. The sides mentioned converge to a point almost due east, and connecting the opposite ends where the declivities begin is a bank about one hundred yards long, forming the western boundary of a triangular area. Only twelve or thirteen years ago this bank is said to have been quite three feet high; it is now barely one foot above the level, having been already ploughed five or six times.

Taking into account the two naturally formed steep sides, there can be little reasonable doubt that the embankment was constructed for the purpose of defending the spot on its weakest or most approachable side. The bank was probably palisaded, but the length of time the ground had been under cultivation rendered it useless to look for any traces of such fortification. On the Dalby farm, lot 26, concession 6, is a bank eighty-six feet long and nearly two feet high. It is not quite straight, but forms a very obtuse angle twenty-two feet from its western extremity. While this elevation has both internally and externally apparent evidences of artificial formation, we could find no traces of posts or palings, nor did it at all resemble the heaps sometimes left to indicate the former existence of a "long-house."

On the same farm and but a short distance away, are two mounds each twenty-five feet in diameter, one being about two feet, and the other nearly four

feet high. They are old kitchen-middens, consisting mainly of ashes and domestic refuse. Both have been opened at various times with the usual result: clay pipes, broken pottery, splintered bones and unio shells.

From an eighty-three-year-old native of the township, we learned that while a good many skeletons have been discovered singly, no ossuaries have been found in that part of the country.

CAMDEN.

The township of Camden, in the county of Addington, has been in former days a famous Indian fishing and hunting ground. On the invitation of Dr. M. I. Beeman, of Centreville, I spent a few days there during the past summer, and although some of the places examined did not "pan out" as well as could have been wished, a considerable amount of information was gained—information that will probably prove valuable in future.

Being joined by Dr. T. W. Beeman, of Perth, we proceeded first to examine a number of knolls situated very closely to one another on the farm of Mr. Israel Stewart, lot 37, in the 4th concession of the township. For many years, these had been regarded by the settlers "in all the region round about" as Indian graves, but the first glance tended to throw discredit on this view. A few spadefuls of earth from some of them speedily satisfied us (if we had any doubt) that the knolls were of natural formation, and the wonder is that such a simple test had not been made long before, by those who regarded them as what they were not.

On the same farm there is a long bank, some three or four feet above the general level, which has every surface appearance of our western earth-works, and of one I subsequently visited further east, in the township of Williamsburgh. An examination of this bank revealed to us the fact that it was simply an ancient reef, formed by the anticlinal strata of an upheaval which took place long before even the Indians had "discovered" America.

In an adjoining field, close to Varty Lake there are still many traces of former Indian occupation, and here, some years ago, Mr. Stewart found a fine copper spear-head, which came into our possession through Dr. T. W. Beeman.

Along a low ridge on the farm of Mr. George Milligan, lot 29, con. 6, we found innumerable traces of old-time residence, consisting mainly of pottery fragments, and one bone awl or bodkin (with a hole in it) picked up by Dr. Beeman.

On the farm of Mr. Joseph B. Lucas, many interesting specimens have been found from time to time. From this gentlemen we have procured a large, block-out, stealite, platform pipe (see figure 28), two gouges and three large stone axes.

Mr. George G. Wager, of the village of Enterprise, presented us also with a knife-like formed lime-stone specimen, the shape of which is probably due to natural causes.

Besides the gentlemen already referred to, our thanks are due to Mr. John W. Bell, ex-M.P., for the courtesy and assistance he rendered during a portion of the time spent in Camden township.

From the interest that has been created in that part of the country, profitable returns may yet be expected, and should any discovery be made, the Institute will no doubt hear of it, through Dr. M. I. Beeman.

WILLIAMSBURGH.

Early in the season, I received from the Minister of Education, a letter addressed to him by Mr. Arthur Brown, Public School Inspector of Dundas county, pointing out that in the township of Williamsburgh, a few miles from Morrisburg, there was still to be seen a portion of what had once been very extensive earth-works. Mr. Brown expressed the opinion that the place should be examined in the interests of archæology, and we have to acknowledge our indebtedness to him for calling attention to what is (or was), according to our present state of knowledge, the most easterly circular embankment in Ontario. On reaching Morrisburg, Mr. Brown kindly accompanied me to the place, and put me in communication with Mr. J. J. Merkely, one of the oldest residents in that part of the country. Mr. Merkely remembered seeing the embankment first in 1816. It was then about three feet above the surrounding level, and enclosed an area of about five acres. His father Mr. Jacob Merkely, and his uncle Henry had both told him that within the enclosure there were five "pottery ovens," but this statement my informant regarded as having reference rather to quantities of pottery fragments found in certain places, than to anything in the form of structures that could properly be called "ovens." Many stone and bone implements had been collected from the place, but nothing indicative of European influence—no iron, sheet-copper, or glass.

Remains of human bodies had been exhumed, but these invariably belonged either to isolated graves containing only one body, or to single graves arranged in rows—no ossuaries or communal graves are known to have been found in the neighbourhood.

All that remains of this ancient earthwork is a few feet of the bank lying partly outside and partly inside of the fence, on the west side of the road that runs in a northerly direction from Morrisburg through the township of Williamsburgh, and which at this point separates lots 30 and 31 on the fifth concession. So inconspicuous is the remaining portion of this once extensive embankment, that none but persons who know of its former connection would regard it as other than a hummock or "cradle-knoll."

Having cut a section through it, however, the evidence was conclusive that the earth had been thrown up artificially, besides which, we found fragments of pottery at various depths as low as three feet.

HERSCHELL.

Almost midway in a line extending south-west from the Ottawa river to lake Simcoe, is situated the township of Herschell. It is one of the most northerly in Hastings county and has within its limits a lake known as Baptiste, about eight miles in length. This lake has continuous river communication, through the York and Madawaska rivers, with the Ottawa, and by means of portages between the innumerable lakes and many streams to the west and south, it would not be difficult to maintain canoe intercourse with the Georgian Bay, Lake Simcoe, Chemung Lake, Rice Lake and Lake Ontario. At all events, it is evident that it has once been a fairly populous centre, and that too, until within a comparatively recent period. Several village sites and camping grounds have been observed at various places on the shores of Baptiste Lake, and last summer there was discovered a burial ground of considerable extent. I am sorry that before I succeeded in reaching it

a number of amateurs had so destroyed the surface marks and disturbed the graves that my examination was not nearly so satisfactory as I could have wished.

Whoever the people were that made their interments here, they were not of Huron-Iroquois stock, as the graves, numbering nearly forty, were all single and arranged in rows, like those recorded last summer on the farm of Mr. G. E. Laidlaw, on Balsam Lake, in the township of Bexley. Neither was the ground by any means the highest in the neighborhood, but appears to have been chosen on account of its light sandy character and its accessibility to the water.

The graves were of two kinds—some being encircled on the surface with stones placed close to each other, and some having no such arrangement. In every case the situation of a grave was known by the presence of a slight depression in the soil. The average depth of the interments was not more than three feet; the deepest one I opened being nearly four feet, and the shallowest one scarcely more than a foot. The bodies seem to have been placed in the ground without any reference to system or plan, so far as I could see, although I understood some of those who had opened other graves to say that the skulls all faced the lake, *i.e.*, westward. In several of the graves were found remains of iron knives, sword-blades and iron arrows. This, of course, pointed to the comparatively recent period of these particular burials, but I was anxious to learn whether such articles were found only in the graves having the stone circles; in those that had not, or in both kinds. I am sorry I cannot say very definitely how this was—I can only go the length of stating that in none of the stone-encircled graves opened under my eye, were there any traces of iron implements, whereas, in one not so marked, we found a quantity of iron weapons.

On the higher ground and at some distance from the other graves, I was fortunate enough to discover one day, the spot in which a child had been buried. The remains were scarcely a foot below the surface, and but little of the skeleton was left. Only the ulna of one arm remained surrounded by two rows of small wampum, which, strung as beads, had probably been worn by the child. Besides this the grave contained a bone comb (fig. 62), the top of a wooden comb (fig. 78), half of a sleigh-bell, a quantity of copper, glass and shell beads, and a small European copper vessel, not more than six inches in diameter. Another child's grave opened by Dr. Beeman contained a number of glass beads and a circular wooden box about three inches in diameter, holding within it a small native-copper spoon-like article, and a tiny moccasin.

Mr. Archibald Riddell in other graves found a "whitestone" pipe (fig. 15) some bone tools and several fragments of iron weapons, all of which he has kindly presented to the museum.

Dr. T. A. Beeman also presented us with all he discovered in the same place.

Other specimens found by Messrs. Mulcahy and Robins were procured by purchase, so that the collection from this burial-place is now tolerably complete.

On the whole, this burying-ground is an interesting one. The people were probably Ojibwas, rather than Hurons or Iroquois. If Ojibwas, it is likely they were Mississaugas who had advanced so far on their southward and westward march after European occupation along the front prevented Iroquois incursions, or after the Iroquois had exhausted themselves in their attempts to exterminate other foes.

Among the Mississaugas it is an accepted article of belief, that on the occasion of their last encounter with the Mohawks, as they call them, the Iroquois were so fearfully worsted that an agreement was come to between the two peoples that the hatchet should forever be buried.

However this may be, it is plain that those who made many of the Herschell graves were at that time in communication with the whites, and yet this inter-

course had not proceeded far enough to modify the old burial customs of the natives. With the stone pipe-heads, the bone implements and the wampum, were buried copper vessels, sword-blades, and glass heads. Elsewhere, it is true, we frequently find a similar condition of things, but here the presence of a small birch-bark basket, a wooden box, a toy or baby moccasin, and some fragments of coarse cloth, would seem to point to a time considerably more recent than when the graves in the Huron and Neuter countries were formed, unless, indeed, it can be shown that the soil in Herschell possessed superior preservative qualities.

Taken altogether the case containing the material from the shore of Baptiste Lake is one of the most complete and, therefore, most interesting and instructive in the museum. The bone tools are dissimilar to anything else we have, (see figures 63 to 66 in this report), and I have not seen anything like them figured or described elsewhere.

LANARK COUNTY.

BY T. W. BEEMAN. M.D.

Former reports of the Canadian Institute have dealt principally with the archæology of the western end of this Province.

It has been my privilege to have the opportunity to devote some time to the subject in a part of Ontario that has not received much attention.

The country about the Rideau range of lakes shows every sign of a once, numerous Indian population. The advantages offered by these waters for communication were great.

My work has been confined to the Tay river and part of the lower Rideau Lake but I secured a number of specimens from the farmers generally in the county.

From all appearances the Rideau seems to have been the principal Indian resort as here are found in greatest quantities, evidences of an occupation that must have been extended over a great length of time. The reason for believing that the occupation of the lake was an old one is, that there is a marked difference in the weathering of different specimens. The pottery also shows two different periods of time, and possibly two distinct peoples. As a rule the older pottery was far superior in make and ornamentation to the newer. Pieces of both were found lying together in the same field or on the same shore.

About the lake, every bit of sandy beech on the banks along the mouth of a stream emptying in the lake, was sure to yield large numbers of specimens. Following up the streams, every small lake showed one or more old village sites. One in particular, Murdy Lake, showed one of the oldest camping places. Nearly fifty years ago a dense hemlock growth was cleared off here, and even yet the ash-beds of their old camp-fires are plainly visible. Numbers of specimens have been found about this lake, at different times and more may be expected from here. Through the kindness of Mrs Peter McLaren, I was enabled to visit many different places about the Rideau on her steam yacht "Geraldine." Mrs McLaren, takes an active interest in the work and, but for her I would not have been able to do nearly so much. During our visits to the lake we found such a great amount of work to be done, that it will take years of observation to get the researches fairly begun. At the Narrow Locks, the dividing-point between the lower and upper Rideau we found what was evidently an open-air work-shop, as the shore for yards was covered with flint chippings. The flint could be obtained on an island but a short distance from this point.

Material of different kinds used in the manufacture of implements and wea-

pons is to be found about the Lake—steatite in abundance—Lake Huron slate in large deposits not far away, besides sandstone, granite and slate. The deposits of the latter being particularly fine.

The Rideau is five or six feet higher than it was in a state of nature, owing to the work of building the canal, and as that depth of water would cover many yards of shore, there must be a large amount of valuable material hidden from our sight.

Spear and arrow points were the most numerous among the specimens and were of the usual variety as to shape and material. A large number of spear points, commonly so called, are just as likely to have been knives. They were provided with notches, for fastening the weapon to a handle, but in some cases one side was nearly straight and the other curved. If they had been intended as spear heads one would expect both sides to be alike. This can not be regarded as altogether accidental, for the more specimens one studies the less apt one becomes to regard a certain form as an accident in making. The Indian workman did not resemble the modern one in one particular. He was not conventional. He followed no set rule. No two specimens can be found exactly alike, and it cannot be because he did not desire to make them so. For the workman who can, with another stone shape a piece of rude flint into a weapon so perfect as an arrow or spear could also produce two or more exactly alike.

It shows that effect was sought from the first and with other evidence proves the directness of the savage mind.

Many spear heads were found near the water's edge and were no doubt used on a long handle for spearing fish. One feature of these was that so many of them were broken transversely at about an inch from the notches. Can this be because the handle was split and each side extended along the spear head making a point of least resistance? It is quite possible that these spears may have been used for the purpose of spearing through the ice mink, musk-rat, beaver and otter.

The arrows were more numerous than any other specimens, and were generally of the elongated leaf pattern, but other kinds were also found. The material used in the arrows was found in abundance about the lake, flint, chert, slate etc., There were many sizes, some so large that one would hesitate to say that they could be shot with sufficient force to be effective, and yet they seem too small to be used as spears.

To us the arrow seems but a poor weapon, but it had one great advantage over the gun with its loud explosion. As it made no noise the hunter must often have been able to secure more than one chance at his prey.

A few very peculiar specimens of a flint implement were found that must be regarded as a skinning or scraping tool. They were about $\frac{1}{2}$ or $\frac{3}{4}$ of an inch in thickness, broad at the base and coming to a point at the other end, the pointed extremity being curved so that at this end one side was concave the other convex. The edges were very sharp, and by taking one between the thumb and finger the flesh or skin could be laid open as effectually as with a knife. It could readily be used as an instrument for scraping an arrow-shaft or for cleaning small particles of flesh from a skin.

A few small specimens of slate were found at one place in particular on the lake, that at first were regarded as accidental until after finding several of the same kind. They were about $\frac{1}{2}$ of an inch thick, and in the shape of an irregular square about one inch in size. Every edge was finished, but no effort seemed to have been made to produce a cutting edge as on other slate tools. Finding them about the lake, suggested the idea that they may have been used for scaling fish, if, indeed, the natives took that trouble in preparing fish for food.

Celts were found in abundance and variety. The majority of them were polished, but few being found of the chipped variety, the same lack of conventionality was found among the celts as in other specimens. From the fact that so many broken celts were found, some fractured transversely, others split, leads to the conclusion that one of their uses was for striking hard substances.

From the large number of celts found and from their many different sizes, one would naturally think that this implement was a general-purpose tool about the aboriginal lodge. To those restricted to the use of few tools, this would serve many purposes, breaking or chopping ice, breaking bones to obtain the marrow, digging edible roots, detaching the bark from a tree, as a wedge to split wood, as well as being of great service in the chase or in war. Why this implement is popularly regarded as one used exclusively for skinning deer, it is difficult to understand.

There were a few grooved axes found. One in particular deserves mention on account of its perfection. The material is red granite, and it weighs a little under four pounds. It has a groove around it at about one third its length, and another groove running lengthwise from the base to the groove around it, being for the purpose of fastening or tightening the handle on. Its width is about twice its thickness, and it had no cutting edge. From this fact it should no doubt, be regarded more as a hammer; the other grooved axes had well defined edges, but in no case was the groove so marked as in the granite specimen. (Fig. 41.)

Dr. Abbott, in his "Primitive Industries" speaks of grooved axes being very commonly found in New Jersey. Among the specimens found here, they were very rare and their presence here is probably a result of barter between tribes, or possibly the result of the fortune of war, some brave from a distance being overcome and leaving his worldly goods to his conquerors. This may account for other implements found here, but made of material not to be obtained in this locality.

Gouges were secured but nothing remarkable was noticed among them. They were found, as a rule, away from the water, and this fact should have some bearing on the use they were intended for. Why some gouges were hollowed out the whole of their length, and others had but one end hollowed, is another point of interest. It certainly could not have been a matter of unconcern as the work in one case is much greater than the other. There must have been some object in producing this difference as all the work of the Indian shows a decided purpose.

Slickstones or scrapers were quite numerous, some of slate, others of sandstone. Those of slate were very often broken, but there was generally sufficient left to show their original shape and the purpose for which they were intended.

A few drills or awls were found, one only being of bone. The flint awls were of two principal shapes, the club based, and those that resemble an arrow to some extent. From the fact that not many persons would recognize the flat drill, with its small points may account for so few being found. The attention of those in search for specimens, was called to the fact, that every stone with a worked or chipped edge was valuable, and it resulted in securing many more things than otherwise would have been found. Among the drills was one of bone, and this was the only specimen of bone obtained during the summer. It is more than likely that other bone implements were overlooked.

Comparatively few ornaments were secured. Those found were of soapstone and slate, and were of the usual form, nothing remarkable being discovered.

Part of one discoidal stone was found. Several pipes were secured, only one being in any way remarkable. This pipe, (Fig. 6) was found at Bob's Lake, over twenty years ago, and is a very perfect piece of native work. The two serpents

are accurately moulded and both possess a degree of life and expression hardly to be looked for under the circumstances. The conception must have been very clearly worked out in the savage mind, before it could take its present form.

One complete clay dish was got, and it was a splendid specimen. The ornamentation on it was of rather an ambitious kind, and must have been the work of a master hand. This dish, (fig. 2) was found some years since, by Mr. Mathew Scott, in a crack in the rock near an old beaver meadow. As to the methods used in ornamentation, it is to be hoped, that another year's work, will throw more light on the subject, by comparing a large number of specimens. From the fact that other clay dishes have been found in this county in recent years, (but which were allowed to be broken) it is confidently expected that more still may be secured and preserved.

Other localities, besides the Rideau Lake are rich in specimens.

In conclusion, it should be said that the work to be done in this section, is but fairly commenced. Quite a respectable number of specimens were secured, but they don't represent a fraction of those remaining in the county that could be obtained with very little trouble. From the first I received the warmest support of every one. With scarcely an exception, all who had specimens gave them to me for the Museum, and the Institute is under a debt of obligation to those who so generously gave up their relics, and, to me, it was a great encouragement to have my efforts in collecting so well received.

Not a few took more than a passing interest in the subject and were of great help in the work. To Mrs. McLaren I am most indebted for the chance of visiting many points of interest about the Rideau.

The engineer and pilot of the Geraldine—Messrs. Geo. Hone and Dick Carpenter—are enthusiastic workers and secured a large number of valuable specimens during the summer. To their enthusiasm they add a degree of intelligence that has been of great help in the work.

W. J. Morris, Esq., of Perth, was also a daily help to me from his intimate knowledge of the county about here.

Mr. John S. Tullis, of Balderson, furnished me with some valuable information that I hope to make useful in time.

Others who contributed specimens are Thomas Moffat, John P. Fraser, Joseph M. Rogers, James Walker, Daniel McDonald, James Graham, J. F. Kennedy, L.D.S., Master Austin Keays, Dr. E. M. Morgan; Master Harry Morris, of Perth, Wm. Richard McLean and Master Robert McLean, of Rideau Centre. Peter Campbell, Wm. H. Blair, John F. Moore, John Coutts, Mrs. Smith, Mrs. A. Palmer, Cyrus Davis, George Ritchie, Charles Mackey, Matthew B. Scott, T. B. Scott, James McLaren, James King, Andrew McCoy, Andrew Paul, Andrew Drummond, Mrs. R. C. Sherritt, Miles Brown and John Poole.

ADDITIONS TO THE MUSEUM.

The following is a list of the principal additions to the museum during the year

Per Dr. T. W. Beeman, Perth :—

Copper spear, with socket.—Mr. Andrew Paul.

Copper spear, with socket.—Mr. W. J. Morris.

- Stone axe.—Mr. Harry Morris.
 Stone axe.—Mr. J. S. Wilson.
 Stone axe.—Mr. Jas. King.
 2 Stone axes.—Mr. Cyrus Davis.
 6 Stone axes.—Mr. Nelson Covell.
 Stone axe.—Dr. E. M. Morgan.
 12 Stone axes.—Dr. T. W. Beeman and "Geraldine" party.
 2 Iron tomahawks.—Mr. Andrew McCoy.
 Quartzite arrow-tip.—Mr. Andrew Drummond.
 Coarse jasper scraper.— " "
 Chert arrow-tip.— " "
 Fragment of gypsum (worked).— "
 Chert arrow-head.—Mrs. Sherritt.
 Lenticular quartz specimen, roughly chipped.—Dr. T. W. Beeman.
 6 "Flints."—Mr. Nelson Covell.
 Arrow-head.—Mr. James King.
 6 "Flints."—Dr. T. W. Beeman.
 Quantity of flakes and chips.—Dr. T. W. Beeman.
 Quantity of broken pottery.— " "
 3 Stone axes.—Mr. James McLaren.
 Stone axe.—Mr. George Hone.
 Stone axe, very large.—Mr. Chas. Mackey.
 3 Stone axes, plain.—Mr. John P. Fraser.
 Stone axe, grooved.—Mr. John P. Fraser.
 Stone axe, Huronian slate.— "
 Stone axe.—Mr. J. F. Kennedy.
 Stone axe.—Mr. Jas. Graham.
 2 Stone axes.—Mr. Thos. Moffat.
 Stone axe, part.—Mr. J. W. Borrowman.
 Part of discoidal stone.—Mr. Geo. Hone.
 Gouge, slate, small.—Mr. Jas. Jackson.
 Stone gouge.—Mrs. Smith, Oliver's Ferry.
 Stone gouge.—Mr. W. H. Blair.
 Base of flat-bottomed steatite pipe.—Mr. Daniel McDonald.
 Gorget, slate, two holes.—Mr. Jas. Walker.
 Gorget, fragment.—Mr. John P. Fraser.
 Gorget, fragment.—Mr. John Coutts.
 Spear-head or knife, slate.—Mr. Wm. R. McLean.
 Pestle, double-ended, California.—Mr. Chas. Mackey.
 Opalescent quartz arrow-head, Dakota.—Mrs. Peter McLaren.
 2 small knife-like flints.—Mr. Thos. Moffat.
 Broken pipe-tomahawk.—Mr. Chas. Mackey.
 Specimens of arrow-heads.—Messrs. Matthew Scott, Thos. Moffat, Robert.
 McLean, John F. Moore, Alex. Palmer, "Geraldine" party and Dr. T. W. Beeman.
 Beautiful quartzite arrow-heads have been presented by Messrs. W. J. Morris,
 Thos. Moffat and John F. Moore.
 Pipe bowl, steatite.—Dr. T. W. Beeman.
 2 Stone hammers.—Mr. Austin Keys.

From Addington County a few specimens have been received, the most valuable of which is the blocked-out form of a large pipe in soapstone. (See fig. 28.) This unique specimen was found on the farm of Mr. Jos. B. Lucas, and by him kindly presented to the museum, along with 3 stone axes and 2 gouges.

Through the kindness of Dr. M. I. Beeman, of Centreville, we have procured a few other specimens from the same county: and a fine gouge, from Elizabethtown, Leeds, comes from Mr. J. M. Rogers, Perth.

Per Mr. Alan Macdougall, C. E.:

Hydah blanket.—Mr. T. Sydney, Dobbin, Esquimalt.

Hydah fish-line and fish-hook.—Mr. T. Sydney, Dobbin, Esquimalt.

Blade of jade axe. “ “

Catlinite pipe, Nottawasaga.—Mr. Bend, Penetanguishene.

Gouge chisel, grooved.—Mr. Jas. McCrosson, Warden, Reformatory, Penetanguishene.

Stone pipe (cast).—Mr. J. H. Crouse, Brantford.

Paint cup (cast). “ “

2 Bird amulets (casts). “ “

Ceremonial axe (cast). “ “

Gorget, Huronian slate.—Capt. David Allan, Elora.

140 Bone awls or needles.—Mr. W. H. Long.

26 Rubbed deer tarsal bones. “ “

10 Worked bone fragments. “ “

135 Bone beads. “ “

1 Carved bone. “ “

1 Piece of worked horn. “ “

10 Horn tips, worked. “ “

8 Bear's teeth, bored. “ “

1 Bear's tooth, notched. “ “

2 Bear's teeth, plain “ “

40 Clay pipes, mostly imperfect. “ “

7 Stone pipes, whole. “ “

9 Stone discs, plain. “ “

2 Stone discs, bored. “ “

8 Clay discs, from broken pottery. “ “

1 Small clay vessel. “ “

22 Well marked fragments of pottery. “ “

1 Gorget. “ “

50 “Flints.” “ “

5 Iron tools. “ “

51 Stone axes. “ “

10 Miscellaneous. “ “

50 Pieces of wampum.—Mr. E. C. Waters.

30 Clay pipes, imperfect. “

1 Clay pipe, perfect. “

1 Bird amulet. “

1 Gorget. “

1 Ceremonial axe, slate. “

1 Pendant, slate. “

4 Various, slate. “

11 Slate fragments, partly worked. “

400 “Flints.” “

34 Hammer stones, rough. “

15 “ “ and blocks. “

31 Rubbing stones. “

3 Grooved axes. “

60 Stone axes, plain. “

30 Bone pins.—	Mr. E. C. Waters.
22 Bone awls or needles.	"
4 Needles, flat with eyes.	"
91 Bone beads.	"
4 Bone spears, barbed.	"
3 Combs, imperfect.	"
50 Bone, various.	"
3 Horn chisels.	"
1 Horn, grooved.	"
6 Bones, split.	"
13 Unio shells, worked.	"
3 Shell ornaments, sub-tropical.	"
3 Stone beads.	"
1 Restored clay pot.	"
50 Various.	"
Quantity of broken pottery from Baptiste Lake.	
6 Bone tools, use unknown.	
2 Bone combs.—	Mr. E. C. Waters.
1 Gouge.	"
2 Stone axes.	"
1 Wooden ladle.	"
Hematite (war paint).	"
Birch bark basket, pieces.	"
5 Pottery fragments.	"
1 Arrow of quartzite.	"
3 Pieces plumbago.	"
6 Iron pyrites.	"
6 Sheet copper arrow-heads.	"
12 Copper fragments.	"
10 Iron tools, imperfect.	"
3 Small copper vessels.	"
6 Stone pipes.	"
2 Clay pipes.	"
300 Copper, glass and shell beads.	"
Copper spike.—Capt. J. G. Spain, Simcoe.	
Copper arrow-head.	"
28 Gorgets, whole and broken.—Capt. J. G. Spain.	
3 Bird amulets.	"
1 Bar amulet.	"
1 Paint cup.	"
4 Stone tubes.	"
2 "Butterfly" stones.	"
4 Slate tools.	"
1 Stone finger-ring.	"
7 Stone pipes.	"
3 Unfinished stone pipes.	"
20 Clay pipes.	"
5 Discoidal stones.	"
16 Bone needles.	"
5 Bone beads.	"
3 Portions of human leg bones, perforated.	"
2 Shell ornaments.	"
8 Flint drills.	"

-
- 400 "Flints" of various sizes.—Capt. J. G. Spain.
 175 Stone axes. " "
 60 Fragments of pottery. " "
 8 Gouges. " "
 12 Rubbing stones. " "
 Unfinished gypsum pipe. " "
 Stone pipe, Kansas. " "
 21 Miscellaneous. " "
 1 slate spear head.—Mr. W. H. Blake.
 45 Clay pipes, imperfect.—Wm. and D. Melville.
 82 Clay pipe stems. " " "
 13 Clay pipes, imperfect.—Mr. David Boyle.
 25 Clay pipe stems. " "
 1 Gouge. " "
 7 Stone axes. " "
 15 Flints. " "
 1 Flint arrow-tip, Scotland. " "
 5 Bone beads. " "
 56 Miscellaneous. " "
 6 Arrow-heads, New Jersey. Mr. Jas. Bolan, Springfield, Mass.
 Small pair of brass compasses from Fort Ste. Marie.—River Wye.
 2 Skulls from Mounds, Arkansas.—Mr. C. W. Riggs.
 27 Pieces of pottery, more or less whole.—Mr. C. W. Riggs.
 3 Skulls from British Columbia.—Mr. W. H. Jones, Vancouver.
 Stone axe.—Mr. Wm. Findlay, Onondaga.
 Stone pipe, Manitoba.—Dr. T. W. Beeman.
 Flint scrapers.—Mr. T. H. Powell, London, England.
 2 Angle-sided axes.—Mr. Cyrenius Bearss.
 1 Smoothly worked straight sided stone.—Mr. Cyrenius Bearss.
 2 plain axes. " "
 1 grooved axe. " "
 1 Gouge. " "
 1 very fine gorget or tablet. " "
 1 large slate "Slick" or hoe.—Mr. Archibald Riddell.
 1 Soapstone pipe, Lake Weslemcoon —Dr. T. A. Beeman.
-

POTTERY.

The large pot shown by the diagram is really a thing of "shreds and patches," the pieces having been carefully put together by Mr. E. C. Waters, who also eked out deficiencies with plaster of Paris for the purpose of restoring the complete outline. The work is well done, enabling us to appreciate the beauty and to



FIG. 1.

estimate the capacity of this ancient piece of pottery. The decorative attempts are as rude as they are simple, and perhaps point to an earlier stage, or a more primitive people than we connect with the more elaborately ornamented exteriors. The vessel represented by figure 1 was found in Brant county by Mr. E. C. Waters. It is ten inches in height and nine inches in diameter.

The piece of pottery-ware represented in the cut (fig. 2) is almost as perfect in form as when it was made. It stands seven inches high and its greatest diameter is eight inches. At the mouth it is slightly elliptical, the short and long diameters being respectively five and a half and six inches. The tooling to form the pattern has been carefully done and the general effect is good. Each line is the result of a single action, that is, no tool like that represented in figure 72 has been used. The scollops that surround the lower edge of the lip have been formed by pinch



FIG. 2.

ing with the finger and thumb, or by pressure with the tip of a finger, the nail mark being plainly discernible at the base of each hollow. The three bars seen on each row of ornament are raised nearly an eighth of an inch above the general level. In color this vessel is of a uniform rusty brown, and the thickness is scarcely three-sixteenths of an inch. The clay appears to have been of fine quality and has been tempered with a much smaller quantity than usual of burnt granitic or gneissoid rock. This handsome pot was found on the farm of Mr. Matthew Scott on the "Scotch Line," not far from the town of Perth.

This small clay vessel (fig. 3) was found in one of the graves in Herschell township by Dr. T. A. Beeman and Mr. J. Robins. In form and finish it is much ruder than figure 4, from the same locality. Its greatest diameter is four and three-



FIG. 3.

fourth inches. Little attempt has been made to ornament the neck, but the pattern on the body of the vessel is made with considerable accuracy and is somewhat unique.



FIG. 4.

Figure 4 represents another vessel from Baptiste Lake, found by Dr. T. A. Beeman, and presented to the museum by Dr. T. W. Beeman. This specimen is somewhat oval in the body, and decidedly so in the neck, on account of the pro-

longation that has been made to extend beyond the ear, if ear it be, and not merely an ornament. The arrangement of lines on figure 4 forms a very simple pattern, quite unlike anything on clay in our possession. The material and finish of this vessel are nearly as good as those of the specimen from the county of Lanark (Fig. 2). Its thickness is pretty uniform and averages not more than three-sixteenths of an inch.



FIG. 5.
(Full Size.)

This smallest of small clay vessels, (fig. 5) we may readily suppose, was only a toy. A bit of clay has been hastily moulded on the end of a finger and burnt, most likely, along with some larger articles. Not only does the shape of the hole correspond with that of the first joint of the finger, but the impression made by the nail may still be distinguished. Township of Whitchurch. Mr. W. G. Long.

CLAY PIPES.

This illustration gives a good idea of a serpent or snake pipe found by Mr. T. B. Scott of the Scotch Line, near the town of Perth. As a piece of clay modeling it is remarkable for its boldness of design, if not so much for the delicacy of its execution. Two intertwined snakes form the bowl, their tails extending along the stem fully an inch in the present imperfect condition of the pipe, and

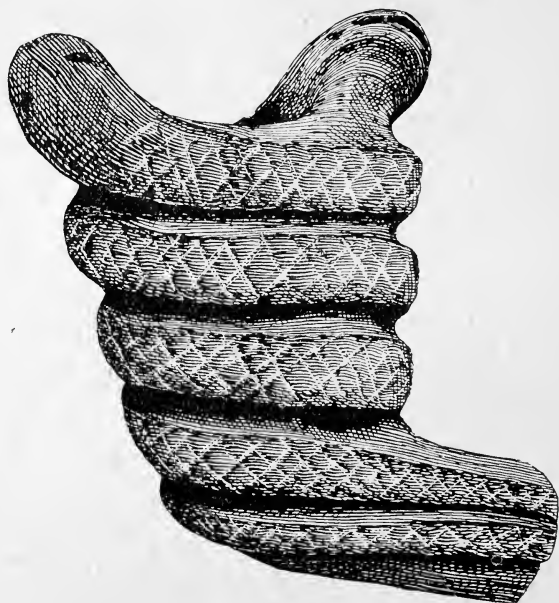


FIG. 6. (Nearly Full Size.)

perhaps twice that distance originally. The heads are well formed, the mouths clearly cut, and the eyes deeply pitted as if made by the pressure of some round and flat-ended tool. Diagonal lines, not very regularly made, across the body, serve to represent scales. It is a pity that this pipe has lost a portion of its stem, perhaps not less than two inches. We are deeply indebted to Mr. T. B. Scott for placing this and several other specimens in our cases.

Fig. 7 is a very good cut of the only perfect square-mouthed clay pipe in our collection, which includes nearly forty in a fragmentary condition. As most of these were found in Nottawasaga, this type of pipe is known as the Huron Pipe, *par excellence*. The specimen figured here was found by Mr. Robins on the Baptiste Lake burial ground, situated on the farm of Mr. Mulcahy in Herschell township.

Of about thirty imperfect clay pipes from Brant County, Figure 8 illustrates the only one that is at all tastefully marked, the pattern being one commonly met with on pottery fragments in the neighborhood of Toronto. In Vaughan township this is the pattern most frequently seen. Mr. E.C. Waters.

The small size of some clay pipes has led to the conclusion that they were made as toys for the use of

children. Occasionally such pipes are not only small, but they are so rude in form as to make it tolerably clear that children were

FIG. 7. (Full Size).

themselves the artificers. Figures 9 and 10 illustrate both kinds. The former is the work of a master hand, and the clay has been carefully tempered with powdered shell. The bowl is elliptical, the longer axis being at right

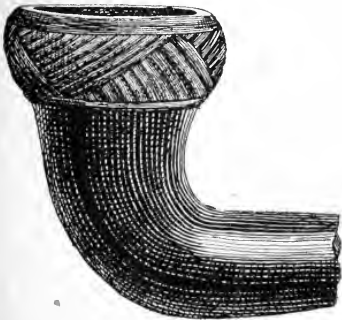


FIG. 8. (Full Size).



(FIG. 9. ($\frac{1}{3}$ Size).



FIG. 10. ($\frac{1}{3}$ Size).

angles to the stem. The cavity in this pipe is large enough to have rendered it, though on a small scale, a man's pipe. The bowl of figure 10 will scarcely admit the little finger, and the stem-hole is no larger than a common pin. The clay has not been tempered in any way. Both form part of the collection made by Capt. Spain in Norfolk County.

The half bat-like human face shown at figure 11 is on part of a pipe found in York township by Mr. W. G. Long. The head is placed with good effect, like a medallion, on the side of the bowl, with little more than the ear-like appendages extending above the edge. As in many, perhaps most of such clay pipes, the face is made to look towards the smoker.

The workmanship, or, if it may be so expressed, the art, exemplified in figure 12 is different from anything else in the museum. What the nose was like we

may only surmise, for little of it remains. The treatment of the eyes is quite uncommon. An oval depression about one millimetre in depth has been formed, in the centre of which is an elevation deeply punctured. The hollow to repre-



FIG. 11. (Full Size)



FIG. 12. (Full Size).



FIG. 13. (Full Size).

sent the eye has been made with a pointed tool, inserted three times side by side. The mouth has been formed in the same way, and it is the septa of clay remaining between the punctures that in the one case makes it appear that an attempt has been made to represent eye-balls, and in the other case, teeth. There is no attempt to form lips. The surface is smooth and well finished. York township. Mr. W. G. Long.

A not uncommon design on clay pipes is that of a man whose head terminates in a peak, and whose face, extending above the lip of the bowl, has a simian appearance from having been moulded by a finger-pinch. Sometimes one hand rests on the breast while the other extends to the mouth, and sometimes both reach the mouth. The legs in such pipes are very much conventionalised, and often merge into scalloped ribs running along the stem. Figure 13 is in many respects an improvement on this design so far as the fragmentary specimen allows us to judge. Unfortunately the head is missing, but the arms and hands are moulded with an amount of graphic rudeness not usual in this type. Teeth, fingers, and toes were seldom attempted by the Indian workman. In figure 13 the fingers are represented, but the left hand is much larger than the right. Posteriorly the legs are in fair relief, but in front they scarcely stand out beyond the body of the bowl, and are footless. The back of the figure forms a sharp angle, and is neatly impressed with a row of small dots. York township. Mr. W. G. Long.

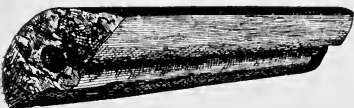


FIG. 14. (Half Size).

As a rule the Indian maker of clay pipes did not display much of his fine work on the stems, which are generally round and perfectly plain. Figure 14 illustrates an exception. With one convex side, and two flat ones, meeting in a rib, this stem is a singular one. It is two inches and a half long, and an inch wide at the larger end. Brant County. Mr. E. C. Waters.

STONE PIPES

The beautiful "white stone" pipe figured here is an exceedingly rare and correspondingly interesting specimen. Soft in its nature this stone readily weathers, and thus loses any sharpness of outline that carved specimens may have once possessed. This pipe is unusually well-preserved, especially on the side shown in the engraving. Despite the appearance of the head, it is probable that the animal whose form extends above the bowl, and more than half way along the stem was intended to represent a lizard. We are indebted for this excellent specimen of the

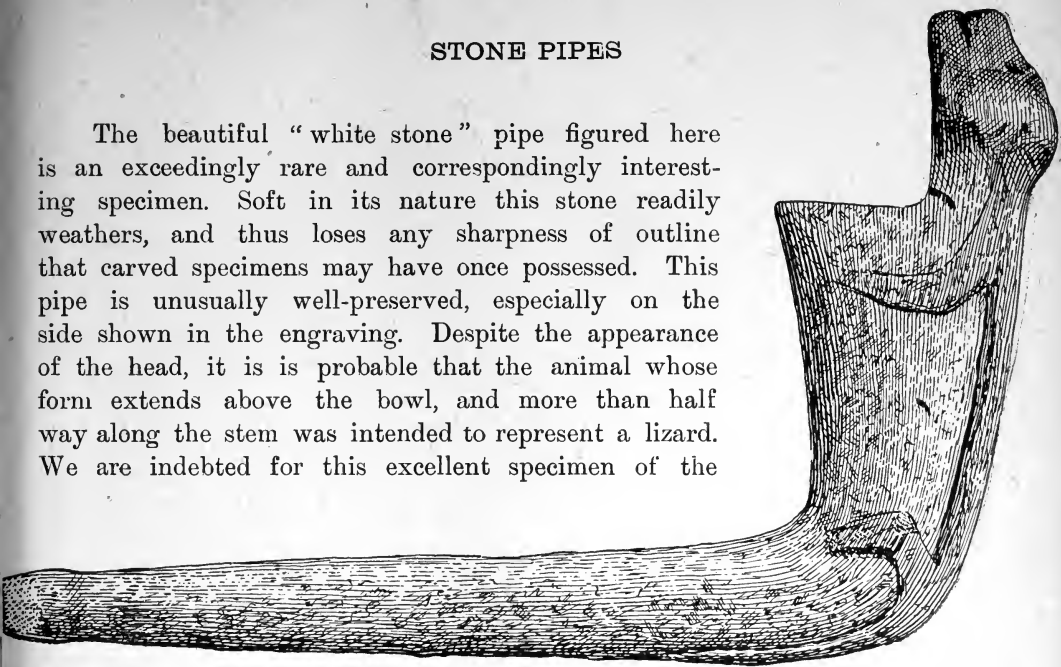
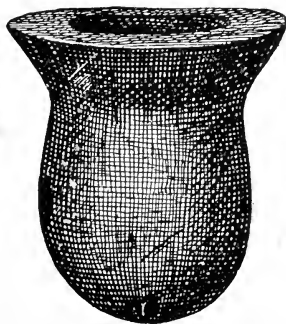


FIG. 15. (Nearly Full Size).

"white stone" pipe to the kindness of Mr. Archibald Riddell, who took it from one of the graves in the Lake Baptiste burying-ground, some days before I reached the place.

FIG. 16. ($\frac{3}{4}$ Size).FIG. 17. ($\frac{3}{4}$ Size).

Figs. 16 to 20 illustrate five pipes from Baptiste Lake. The patterns are not common ones. All are of steatite except Fig. 16, which is made of a rich

brown, compact argillite. Figure 16 too, differs from the others in having the sides form sharp angles with one another. With the exception of Figure 20, all



FIG. 19. ($\frac{3}{4}$ Size).

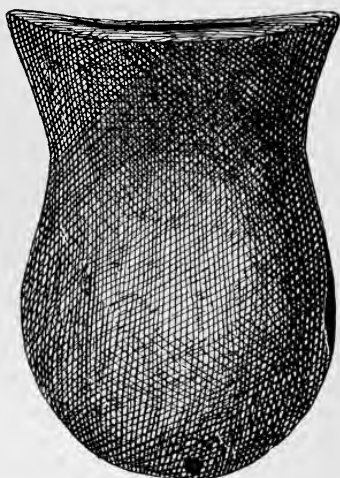


FIG. 18. ($\frac{3}{4}$ Size).

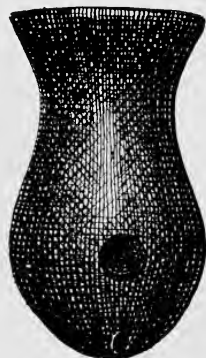


FIG. 20. ($\frac{3}{4}$ Size).

these pipes are, in cross section about twice as long as they are wide—a similar section of Figure 20 is perfectly circular. Figures 17 and 18 which most closely resemble each other in shape, seem also to have been made from the same piece of material, of a pale, yellow tint. Figure 19 is darker in color with a shade of brown, and Figure 20 is a mottled gray. All have small holes at the base for securing them to their stems, and in Figure 19 a beginning has been made from each side in the making of a second hole. Only in Figure 20 is the bowl-hole perfectly round, it is nearly so in figure 18, quite oval in Figure 17 and in Figure 19, in which the wall of the bowl has been cut away quite thin so as to form in this smallest of all these pipes a cavity of the largest capacity. The specimens here figured were found by Messrs. Robins and Mulcahy, Dr. T. A. Beeman and myself at different times.



FIG. 21. ($\frac{3}{4}$ Size).

Figure 21 represents one of many valuable specimens found by Dr. T. W. Beeman on the shores of Lake Rideau. It is of a dark brown steatite, and remarkable for the accuracy with which it is formed. Enough of the stem is left to show that it was of the flattened variety. In width it exceeds the diameter of the bowl about one-fourth of an inch, measuring an inch and an eighth across, while it is only five sixteenths of an inch in thickness. The edges of the stem are delicately ornamented with plain zig-zag lines.

Figure 22 illustrates a somewhat unusual form of catlinite pipe found in the Township of Nottawasaga. It has not even a suspicion of the modern in its form. Everything in the workmanship points to a time anterior to the manu-

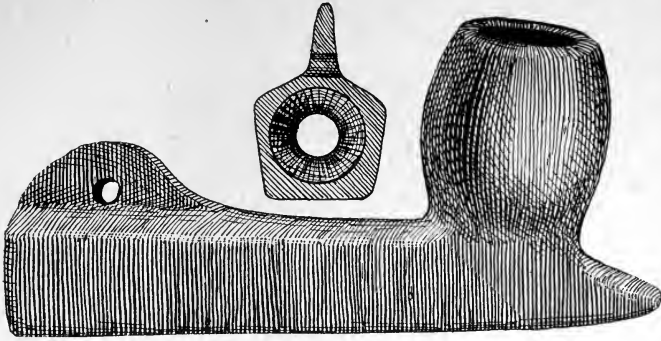


FIG. 22. ($\frac{1}{2}$ Size).

facture of "curiosities." A cross section of the end of the stem is shown. The only other catlinite specimen from this township is the Beecroft pipe. (See Can. Inst. Report, 1886-87, p. 28.) The extremely beautiful specimen here figured was presented to the Provincial Archaeological Museum by Mr. Bend, an officer of the Reformatory at Penetanguishene.

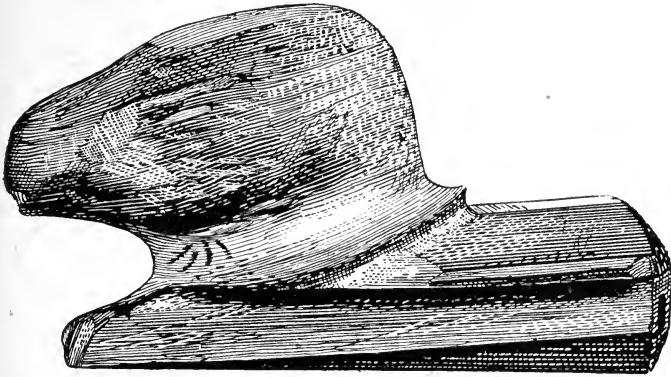


FIG. 23. ($\frac{1}{2}$ Size).

Figure 23 represents an unfinished pipe found in Norfolk County. The workmanship is a somewhat curious combination of Indian and European. The contour of the head in its rough condition is suggestive of the eagle. The material is a brown argillaceous stone, much like that of which figure 16 is formed.

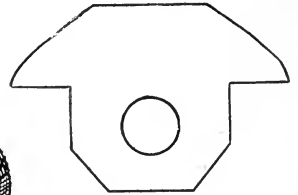


FIG. 24.

Fig. 24 shows a cross section of the stem. Capt. J. G. Spain, Simcoe.

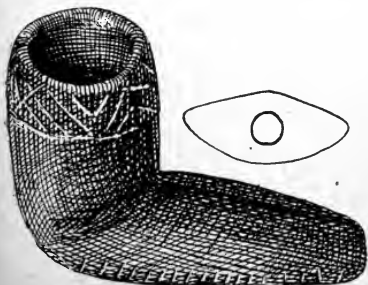


FIG. 25. ($\frac{1}{2}$ Size).

A very pretty pipe, apparently made of limestone, is here figured, nearly full size. The attempt at ornamentation round the margin is of the rudest. The chief peculiarity of this pipe is the stem, a cross section of which is shown as it would appear close to the head. Each edge of the stem is relieved with a series of notches sharply cut—fourteen on one side and seventeen on the other. Capt. J. G. Spain, Norfolk County

This excellent pipe (Fig. 26) was found a few miles south of Penetanguishene, and was procured from Mr. A. C. Osborne, one of our members, who resides in that town. It is of steatite, mainly drab in color, but shading into a dark gray at the back, the face hands and breast being almost black. The maker of this pipe had



FIG. 26. (Full Size.)

some pretensions to anatomical accuracy in his treatment of the chin, wrists and ankles. He has even been careful to carve the feet in-toed, according to a well known Indian characteristic. But with all this care in these and some other respects, he has failed to produce thumbs and great toes.

I am indebted to Prof. W. H. Ellis, M.D., for the suggestion that this pipe represents a man, with a bundle on his back, taking a rest.

It is worthy of note that the only other hatted pipe (fragmentary) in our possession was found within a short distance of the place where fig. 26 was picked up, (see Can. Inst. Report for 1890-91; fig. 79, p. 34), in which case, however, there is a distinction between the crown and the rim of the head-dress. A hat or cap very similar to that shown on the Penetanguishene pipe appears on a carved stone head from

the Dwyer farm in Beverly township, (see Can. Inst. Report for 1887-88 fig. 70, p. 46).

We have pipes of steatite, catlinite, "whitestone," common limestone, marble, and even of sandstone, as well as of bone; but the unfinished specimen repre-

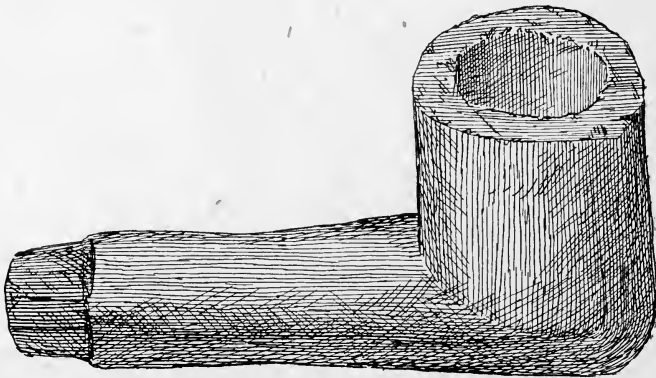


FIG. 27. (Nearly Full Size).

sented by fig. 27 is the only one of gypsum. It is three and a half inches long; the bowl (nearly an inch and a quarter, outside diameter) has been bored to its full depth, and is three-fourths of an inch in diameter. The stem, in cross section, is mainly round, only the lower side being flattened. At the end it is roughly

squared, as if to form a mouthpiece,, but there is no stem hole—only the merest beginning of one. The specimen in question was found on the St. Clair Flats, and forms part of the Spain collection.

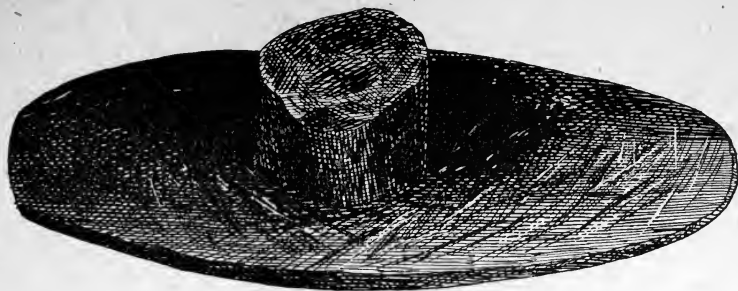


FIG. 28. (About $\frac{1}{4}$ Size).

As has been mentioned previously in these reports, it was the practice of the Indians to "block out" the various articles of stone as nearly as possible to the required size before boring any holes that were necessary. The unfinished gypsum pipe (fig. 27) is one example, and the accompanying illustration is another. On more than one account this is a valuable specimen for museum purposes. The size itself is somewhat out of the common, as the base measures $7\frac{1}{4}$ inches long and $2\frac{1}{2}$ wide; while the bowl portion stands $1\frac{7}{8}$ inches above the upper side of the base or stem part. But the pattern is more noteworthy still, for it belongs to a type better known in the region of the mounds, and which is designated by American archaeologists as a "monitor" pipe. The stone itself is steatite of a very soft quality, and the surface appears to have been stained black.

The end intended for the stem is five-eighths of an inch thick, the other being only three-eighths of an inch in thickness. That this is an unfinished pipe is undoubted, and we can only conjecture why the work of boring has not even been begun. Perhaps it was procured in its present condition by barter or plunder from some southern source, and was lost before an opportunity presented itself for the boring operations to be performed.

This very interesting specimen was found on lot 36, concession 5, township of Camden, by Mr. Joseph Lucas, the intelligent proprietor of the farm, Mr. and Mrs. Lucas generously presented this, and other specimens elsewhere enumerated, to the museum.

FLAKED IMPLEMENTS.

Popularly, all "flints" are regarded as having been made for shooting purposes, or, if large, to be used as spears only. In reality there must have been many other uses to which flaked "flints" or chert objects were applied, although the shapes correspond largely with the typical arrow-head. It is, for example, quite evident that articles of this kind, from eight inches to a foot in



FIG. 29.
(Full Size).



FIG. 30.
(Full Size).



FIG. 31.
(Full Size).



FIG. 32.
(Full Size).



FIG. 33.
(Full Size).

length, were not intended for either the one purpose or the other, and more especially are we warranted in coming to this conclusion when they are from three to six inches in breadth. In such cases they are usually regarded as spades or hoes. It is equally certain that many "flints" of smaller size were neither arrows nor spears. When serrated they were probably used as saws, and, no doubt, many were employed for cutting purposes just as we use pocket-knives.

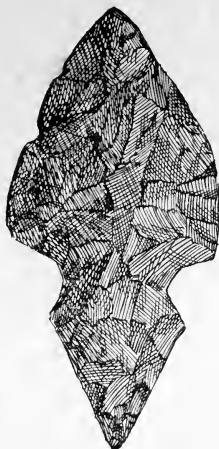
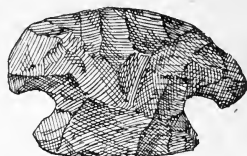
At best, when shooting with flaked arrow-tips, the result must have been very uncertain, unless the aim was taken from close quarters, or the object a pretty large one.

Figures 29 to 33 show the curvature possessed by specimens in our cases. Shooting, with such specimens, must have been wide of the mark, unless the intention was to send the shaft round a tree! With a head like the one represented by fig. 29 the motion resulting from a shot would resemble that of a boomerang. In savage economy there were many uses to which such curved articles might be applied, in scraping, splitting, carving, cutting and dressing stone, wood, bone or

furs. A very suggestive use is that of the scalping knife, but it is not at all certain that in pre-European days the natives carried a special weapon to "raise the hair." If they did, perhaps the sewere real scalping knives. Most of the curved "flints" are much flatter, transversely, on the concave than on the convex side,



FIG. 35.

FIG. 36. ($\frac{7}{8}$ Size).FIG. 37. ($\frac{7}{8}$ Size).

especially near the point. Figure 35, somewhat reduced, shows a side view of fig. 32, which makes it absolutely certain that the specimen was made for any other purpose but that of shooting.

Fig. 29 is provided with a deeply notched, or semi-barbed neck. Figs. 30 and 31 are leaf-shaped, and fig. 33 has a plain straight-sided neck. Norfolk County, Capt. J. G. Spain.

An unusual form of "flint" is shown at figure 36 in a slightly reduced form. It is not easy to decide whether the pattern is the result of mere whim, or was intended to serve some purpose. The smaller end is quite as carefully worked as the larger one, and it may have been the intention to make the ends reversible.

This specimen is rather thinner in proportion to its length than we commonly find, and all the edges are sharp, without any signs of usage. Capt. J. G. Spain, Norfolk County.

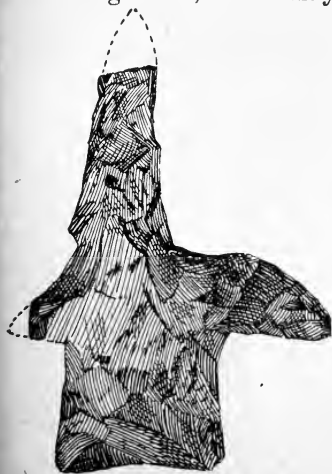


FIG. 38. (Full Size).



FIG. 39. (Full Size).

"Scrapers" are not found in Canada in anything like such quantities as in many countries of Europe. In the collection from Norfolk county there are twenty or more, and mostly provided with necks, as if they were "degraded" arrow tips. Most of the European articles of this kind are roughly discoidal or elliptical, flat on one side and convex on the other. This type is also found here, besides another, which has a strong straight neck. The working edge of figure 37 is worn smooth.

Among oddly chipped flints, figure 38 is worthy of a place. It does not appear ever to have been even roughly symmetrical—the dotted lines may indicate the original shape and size of the weapon. From Brant county. Mr. E. C. Waters.

Figure 39 represents a chip of chert carefully worked down to a fine point, no doubt for use as a drill. Some such tool must have been employed to bore holes in wampum and other small articles. Brant county. Mr. E. C. Waters.

CELTS, CHISELS, GOUGES.

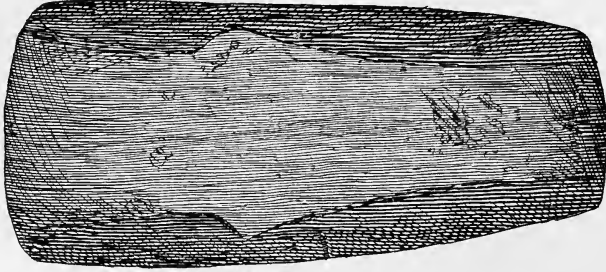


FIG. 40. ($\frac{1}{4}$ Size).

Among the many hundreds of celts and similar implements in the museum there is nothing to correspond with the specimen represented by figure 40 except in general outline and material. The remarkable feature connected with this object is the symmetrical pattern in relief which has been carefully formed on one side. Although not more than a millimetre in height, it indicates no small amount of labor, and more than a little mechanical skill to produce such a result. The material is a very dark gray primitive rock, homogeneous in composition, and so hard as to scratch glass readily. The great amount of work bestowed on this article suggests a few queries: Was it the property of some distinguished "brave"? Had the design any particular meaning? Was the implement more for ornament than use? Was it made solely for ceremonial purposes? Or, was a special hatchet produced for "burial" in ratification of some important treaty of peace? This unique stone tomahawk was found a short distance north of Norfolk county. Capt. J. G. Spain, Simcoe.

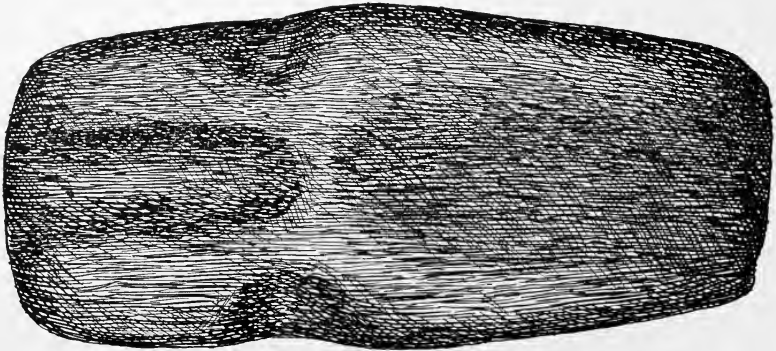


FIG. 41. ($\frac{1}{4}$ Size).

The tool illustrated by figure 41 was an adze rather than an axe, and is of a pattern comparatively rare in Ontario. The groove for handle attachment is not very deeply cut, and on the side not shown in the engraving no attempt whatever has been made to extend this groove, but as may be seen from the illustration, another groove has been cut lengthwise from the top of the adze to a point nearly in line with the lower

side of the horizontal groove. As I take it that the longitudinal groove was intended to hold a wedge for the purpose of tightening the tool in its withe or sinew-bound handle, the fact that it was cut on a side and not on an edge enables us to see how the implement was used. Another peculiarity of the adze is what I regard as the traces of wear resulting from its friction with the handle when in use, for it is not only unusually smooth on the side shown in figure 41, but the smooth portion is of a pale green hue, suggestive of its having absorbed coloring matter from copper with which it has been in contact. On the opposite side also, the smoothness and greenness are coincident, but to a much less extent. The length of this adze is $7\frac{3}{4}$ inches. It is made of an exceedingly hard and fine grained, gray granite. The cutting edge is considerably battered, and the pole looks as if it had been employed as a hammer. The exceedingly instructive implement here figured and described was found at the Indian Landing, Lake Rideau, by Mr. John P. Fraser, and by him presented to the Provincial Archaeological Museum.

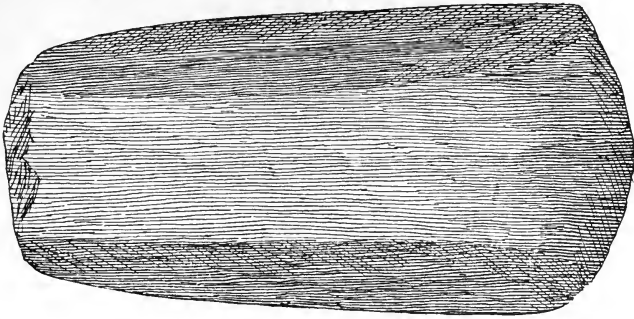


FIG. 42. ($\frac{3}{4}$ Size).

When describing plain celts, axes or chisels in a general way, it would be perfectly safe to say that transversely they are more or less oval, for even if one side is somewhat flat the opposite side and corners are nearly always rounded. Occasionally a specimen is found whose sides form right angles with each other, but these are rare. Rarer still are specimens like the one figured here, for both sides are flat, and the corners on one side are rubbed down to an angle of forty-five degrees. Figure 43 shows a cross section of this specimen. Humberstone. Mr. Cyrenius Bearss.



FIG. 43.

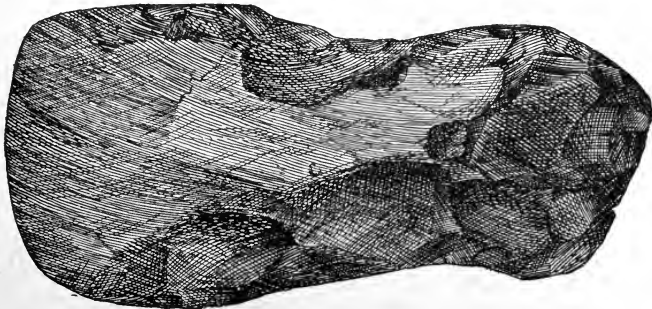


FIG. 44. ($\frac{1}{4}$ Size).

In figure 44 is represented what is probably an unfinished axe. If it was intended to be used in its present condition, its maker had an eye to utility with-

out any regard for appearances, because, while the blade has been brought to a tolerably good cutting edge, the upper three-fourths of the tool are left in an extremely rude condition of chipping, except that some of the most prominent ridges have been rubbed down as if for comfort in grasping it. This specimen is somewhat singular in another respect, for the material—Huronian slate—was seldom used in the making of axes or other cutting implements. We owe the possession of this valuable specimen to Mr. John P. Fraser, of Perth, who found it on the Lake Rideau shore.

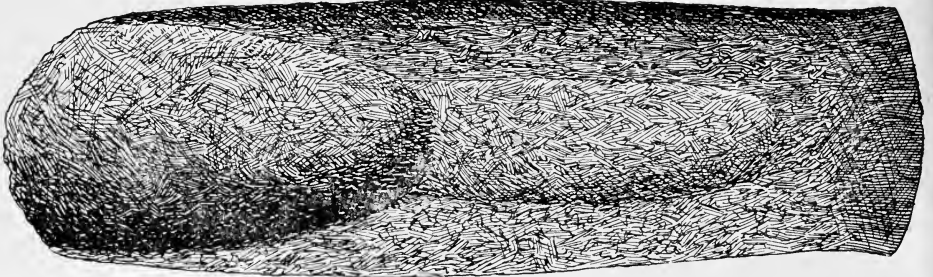


FIG. 45. ($\frac{2}{3}$ Size).

A unique implement is figured here (fig. 45). It was evidently intended to serve the double purpose of gouge and chisel. The gouge end is peculiarly hollowed, for besides being deeper than usual at the mouth, it is to some extent cup-shaped, and if held at the proper angle it would contain fully a teaspoonful of water. Extending also from the upper or inner end of this deeply cut hollow is a much shallower one, reaching within an inch of the chisel end. The latter possesses still the rough surface, resulting from the pecking process, while the deeper one has been smoothed. The chisel end is almost as singular as the other, on account of the sides of the lip being slightly flared—in other words, the “bit” or cutting edge is a little wider than the body of the tool immediately above it. This end has still an excellent cutting edge, but that of the gouge is considerably battered. This remarkable implement is made from a piece of light gray and close grained, dioritic rock. It was found near Penetanguishene, and was presented to the Museum by Mr. Jas. McCrosson, Warden of the Provincial Reformatory.

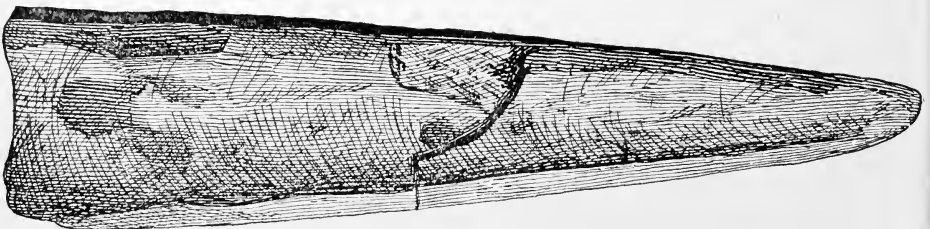


FIG. 46. (Full Size).

What has been in its perfect condition a remarkably beautiful and unusually small gouge is represented by figure 46. It is considerably damaged, but even in its imperfect condition is valuable as suggesting some use not attributed to larger and correspondingly strong specimens. As this one is made of slate it could not have been meant for use where much force or strength was required. It was presented to us by Mr. Jas. Graham, who found it on the shore of Rideau Lake.

VARIOUS SLATE SPECIMENS.

Perhaps the article represented by figure 47 was a knife—perhaps it was not Argillite does not take a good cutting edge. This specimen was not an arrow-head, for one side is straighter and less sharply ribbed than the other. As a spear it would prove too fragile for use. Unlike many objects of this form and material, it has not a serrated tine. It was found in the township of N. Elmsley by Mr. W. K. McLean.

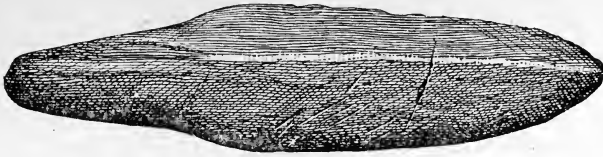


FIG. 47. ($\frac{2}{3}$ Size).

Figure 48 is of slate, and less than one-fourth of an inch in thickness near the unnotched end. At the opposite end it is only about an eighth of an inch thick. On each side of one end have been cut seven notches, but on the side shown above one of these has been destroyed by means of a splinter. The other end appears never to have been finished, although it is worn quite smooth at the extremity of a fracture. Both edges are sharp, and their concavity suggests that the tool may have been used to "slick" the outside of clay vessels, while the oblique ends may have been employed in making the lines that characterise Indian ceramic adornment. Norfolk county. Capt. J. G. Spain.



FIG. 48. (Full Size).

Insignificant looking as fig. 49 is, the original was not improbably held in high estimation by its owner. In form it may have been intended to represent a bird—the projection at the upper end being meant for a head, while at the lower end are seen the tail (from which a piece has been broken) and the tips of the wings. The outline is not unlike that of the Thunder Bird done in porcupine quill-work, as figured in last year's report. It was most likely worn as a pendant, forming part of a string of beads. The notches suggest its use as record of some kind unless they were made for a purely ornamental purpose, as all the corners are similarly treated, although the marks on two of them have become almost indistinguishable as the result of wear. The stone is a dark red slate, not found in the county of Brant, where this specimen was picked up by Mr. E. C. Waters.



FIG. 49.
(Full Size).

"Gorgets" so-called have been previously figured in the reports of the Institute, but this one (fig. 50) differs in many respects from most of the others in our cases. Originally it has had seven teeth at one end, but the two outside ones have almost disappeared—one apparently from wear, and the other as the

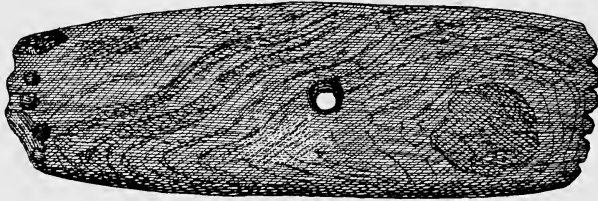


FIG. 50. ($\frac{1}{3}$ Size).

result of a fracture. Perhaps the worn corner was also broken and afterwards rounded off. The opposite extremity has also been roughly toothed, but it is chiefly noticeable on account of five shallow hollows that have been drilled there.

As is nearly always the case with such articles, the material is of Huronian slate. Norfolk county, Capt. J. G. Spain.

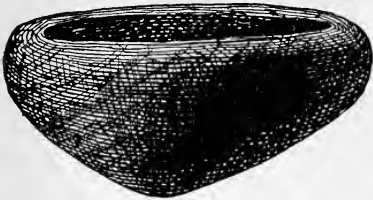


FIG. 51. (Nearly Full Size).

This figure represents what is commonly spoken of as a "paint-cup." It is made of slate, and is neatly worked, although the outside is not quite symmetrical. If the supposition that articles of this kind were used for mixing pigments to be employed in personal decoration, be not the correct one, it is difficult to surmise in what other way they could have been utilised. Norfolk county, Capt. J. G. Spain.

A most singular "bar-amulet" from the same source, is illustrated by figs. 52 and 53. Usually the basal holes pass out diagonally, one at each end, but in this

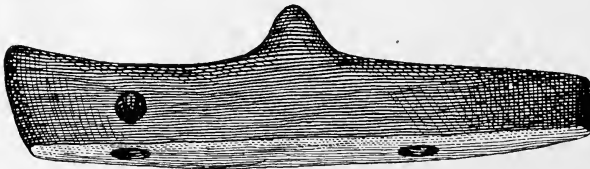


FIG. 52. ($\frac{1}{3}$ Size).

specimen they pass through the sides. On the upper edge, over the hole to the left, there is just the beginning of a perforation, as if the intention had been to make a connection with the basal hole from that point. In such objects, elevations at

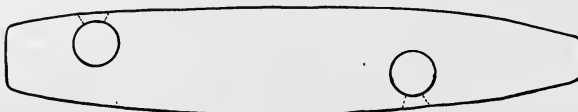


FIG. 53.

one or both ends are not uncommon, but the central knob shown here is unique so far as our collection is concerned. Although each hole in the base is half an

inch in diameter at the mouth, and fully a quarter of an inch in diameter where they enter at the sides, the meeting-points within show apertures scarcely more than one-sixteenth of an inch in diameter with no signs of wear.

The stone of which this odd "bar-amulet" is made is a light brown, un-veined argillite. The finish is only passably good.

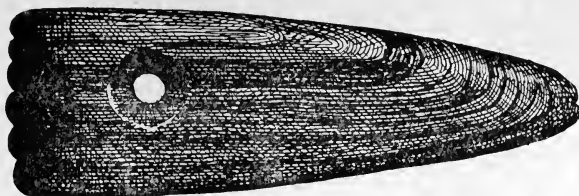


FIG. 54. (Full Size).

Fig. 54 resembles, in some respects, specimens from Middlesex county in the west and Wolfe Island on the east. The position of the hole in all of them is puzzling, being either near the middle or towards the larger end. In the present instance the hole is not only nearer to the large end, but it is considerably to one side. The edge in this specimen, too, is crenated as well as chisel-shaped; in the others it is chisel-shaped and plain, whether sharp or blunt. The stone is Huronian slate. E. C. Waters, Brant county.

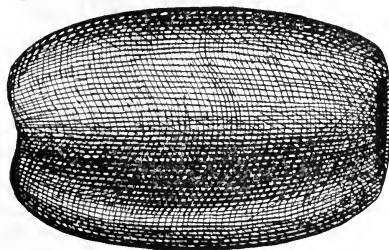


FIG. 55. ($\frac{3}{4}$ Size).

The tube figured here is of light pea-green, veined steatite. It is two and a half inches long, the hole being about seven-sixteenth inches in diameter. Along one side is a groove fully an inch across at the middle, and so deep that less than an eighth of an inch of material separates it from the hole. Norfolk county, Capt. J. G. Spain.

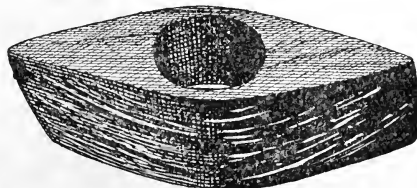


FIG. 56. (Size $2\frac{1}{4} \times 1\frac{5}{8}$).

This may be called, for want of a better name, a small ceremonial axe. The hole is oval, $\frac{5}{8}$ in. one way and $7-16$ the other. It is slightly damaged on one side, but even in its imperfect state is a handsome specimen. Its length is $2\frac{1}{4}$ inches and its depth $1\frac{5}{8}$ inches. Brant county, Mr. E. C. Waters.

Too late to have engraved, we received from Mr. Archibald Riddell, manager Bronson Lumber Co., the largest and one of the most perfect slate specimens in the collection. In form it may be very properly described as semi-lunar, when viewed sidewise. Across the slightly concave edge it measures nearly nine inches, its width is four and a half inches, and the arc formed by its convex edge measures thirteen and a half inches. The concave edge, or back, is half an inch thick in the middle and tapers to one-eighth at each end. The back is considerably thicker than what may be called the blade, and it has been formed by the material of the latter portion having been worked down until its greatest thickness is not more than three-eighths of an inch, thus forming a bar on each side of the back, as if left to give it strength.

The methods employed in the cutting-down process may be traced, and from this point of view alone the specimen is a very instructive one. These may be referred to in a future report.

In outline it strongly resembles the blade of an ancient European battle-axe, and the grooves that have been made at the base of the bars when the blade was in process of formation, lend color to the idea that the object was attached to a handle and used as a weapon of war. But several reasons may be adduced to show why it was not so employed. First, there is the difficulty of attachment to a handle owing to the want of notches at the end of the grooves—next there is the evidence already referred to, that the grooves themselves are merely incident to the cutting-down process—then there is the improbability of such a form being used for this purpose, and, chiefly, there is the objection that the material is too fragile to prove very effective in the infliction of more than a few blows.

Its use was probably a more noble one, viz., that of preparing skins of animals for clothing. It is well known that currying processes of various kinds were well understood by savage man—indeed, such knowledge was indispensable to his very existence, and it seems tolerably certain that this tool was employed for the purpose of fitting hides or pelts for domestic or personal use.

As an implement for procuring clay to make pottery, or as a spade or hoe for simple agricultural purposes, it could have been employed also with good effect. In this case, however, it would have been scratched in the direction of the thrust, whereas the thin convex edge is worn perfectly smooth.

However employed, the specimen is an exceedingly interesting one, and places the Institute under another debt of obligation to Mr. Riddell, who procured it from an Indian at the mouth of the York River, where it joins the Madawaska. The Indian found it some distance below the surface when he was digging a potato-pit.

FINGER RING.

Finger-rings are rare among relics of the Red Man. The only other one I know of is in the public school museum at Elora. The specimen figured here



FIG. 57. (Full Size).

is from Simcoe county, and formed part of the collection of Capt. J. G. Spain. A series of shallow cuts or notches round the edge of the hole were probably intended for ornament rather than as a record or tally. Norfolk county.

RUBBING TOOLS.

The stone represented in this cut (fig. 58) has been employed in all probability for the reducing of bone awls or needles to shape. It is a flat gritty, limestone pebble, well adapted for such a purpose, and the scratches made are still

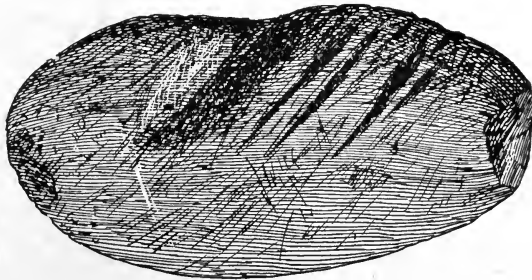


FIG. 58. (Half Size).

visible on the sides of the ruts that have been deeply worn during the course of rubbing. The angle at which the grooves run indicates that the stone was held in the left hand, while the action was performed with the right. Capt. J. G. Spain.

■ All that can be said regarding fig. 59 is that the original has evidently been employed as an effective tool, but in what way it is not easy to guess. The oblique notch seen at one end has its counterpart on the other side (see cross

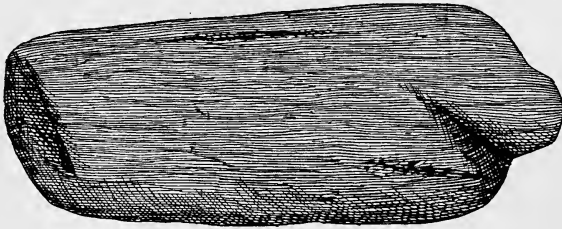


FIG. 59.) Half Size).



FIG. 60.

section, fig. 60), and both appear to have been produced by rubbing on some hard substance. The body of this tool is smooth, fairly symmetrical, and is admirably fitted for the hand. Capt. J. G. Spain, Norfolk county.

BONE AND HORN.

Combs are not among the common finds on village sites, in graves, or elsewhere, perhaps for a similar reason to that suggested in connection with fig. 74 (horn chisel). This one (fig. 61) was found in one of the graves at Baptiste Lake. The side shown in the cut has been worked down to a smooth surface. Some rubbing has also been done on the opposite side, but not much. The upper end shows all the roughness of the original cutting. In the grave with this specimen was found a quantity of red hematite, no doubt used as war paint

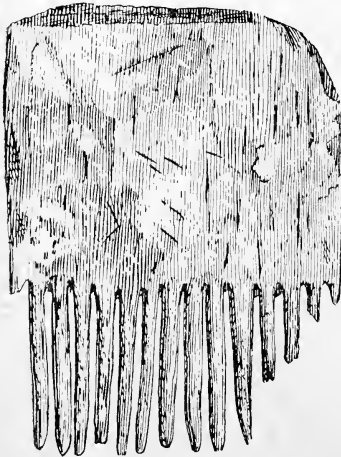


FIG. 61. (Full Size).

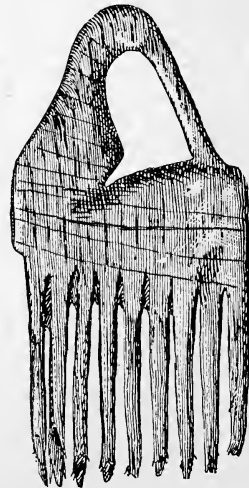


FIG. 62. (Nearly Full Size).

Another comb of bone is represented at fig. 62. It is chiefly remarkable in having the upper part or back carved to imitate the form of a bird—probably a woodpecker, with an elongated bill. I found this interesting specimen along with a variety of others elsewhere referred to, in the grave of a child at Baptiste Lake

The long bone specimen illustrated here (fig. 63) measures eleven and a quarter inches. It represents one of two, similarly marked, from Baptiste Lake, Hastings

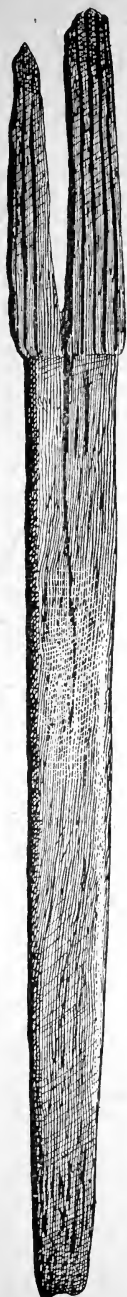


FIG. 63. ($\frac{2}{3}$ Size.)



FIG. 64. ($\frac{1}{2}$ Size.)

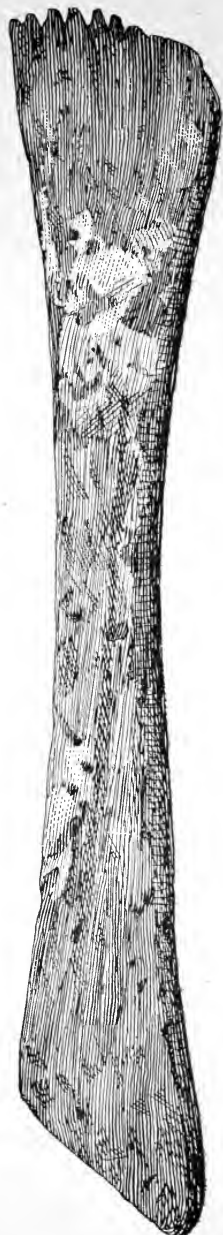


FIG. 65. ($\frac{2}{3}$ Size.)

county, and found in the burial ground there by Mr. Archibald Riddell. The grooves at both ends are perhaps too long to have been intended for marking pottery. At the larger end they are three inches in length, and at the smaller

end an inch and a half. This specimen appears to be formed from a rib-bone, the convex side of which is seen in the engraving.

Fig. 64 is also made from a rib, and is, at one end, grooved like Figure 63. It is much more curved than figure 63. The ridges, eight in number, appear rounded as the result of wear.

Figure 65 resembles nothing that has hitherto found its way into our possession, nor is it like anything I have ever seen figured elsewhere. Indeed, the same may be said regarding figures 63 and 64. At one end it has been toothed like a comb. As but a small portion of the teeth remain it is impossible to say with certainty how long these were originally, but perhaps they did not exceed in length those shown in the following figure. The opposite end still has the angle it possessed as a tool, and enough remains to show that two deep grooves ran from heel to point on its narrow face, thus forming three sharp ridges fully an inch and a half long. Though somewhat weathered it was probably never more than a quarter of an inch in thickness at this, its thickest end.

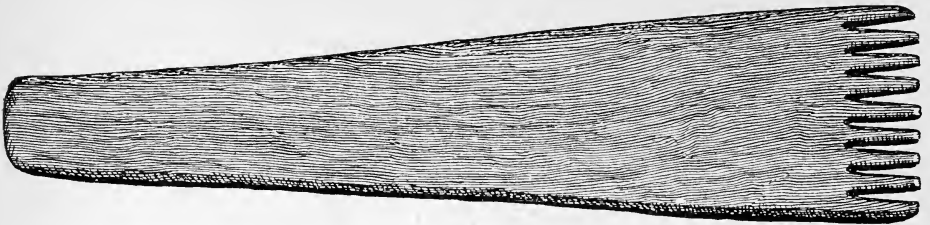


FIG. 66. ($\frac{3}{4}$ Size.)

The toothed specimen here figured is thinner than even the one last described—its thickest part, one-third of its length from the end of the teeth, is only three-sixteenths of an inch. At first sight this might be taken for a comb, but an examination of the teeth shows that the ends have been worn wholly on one side. This specimen is six and one-eighth inches long. It was found in one of the Baptiste Lake graves.

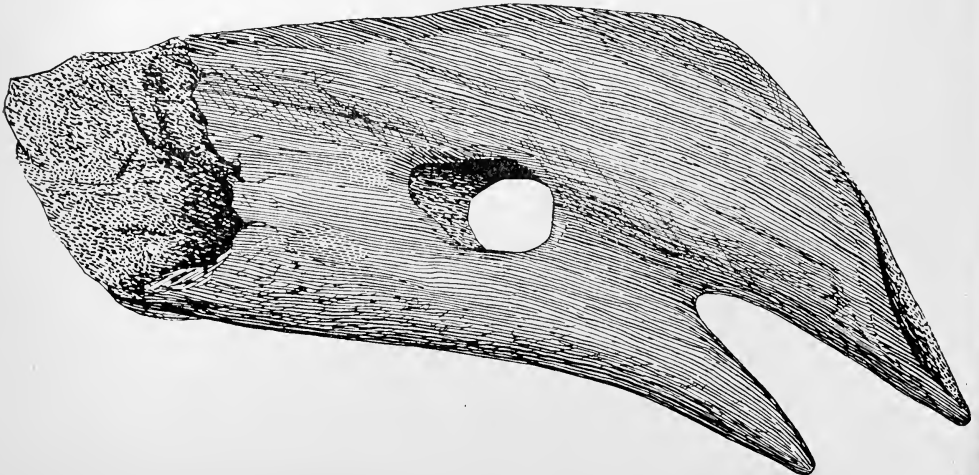


FIG. 67. ($\frac{3}{4}$ Size.)

This exceedingly odd-looking specimen (fig. 67), forms part of the collection from Brant county. The horn of which it formed a part was palmated

Measuring seven and a half inches in length at present it does not appear that much has been broken off the fractured end, as the edge shows traces of cutting. As is the case with a few other specimens of deer-horn similarly bored, the hole is worn at an angle, suggesting the use of the tool for purpose of an arrow-straightener. See Can. Inst. Report, 1890-91, p. 56. But the condition of the longer prong in figure 67 is suggestive of usage in some other way, for it has been hollowed fully five-eighths of an inch deep, and the lips are whittled down outwardly in such a manner as to leave a tolerably sharp edge forming the margin of the hollow. It may have been, as suggested by Mr. Waters, that this portion of the tool was used as a sort of vice, pincers, or grip, in which small objects were wedged to be held while being chipped or otherwise manipulated. Mr. E. C. Waters.

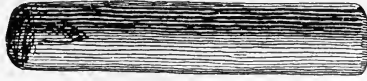


FIG. 68. (Full Size.)

Simple in form as are specimens like figures 68 and 69, there is nothing known with certainty as to their use. They have been called tobacco stoppers. An old gentleman in Brant county assured me he had seen the Indians use them to fasten down skins to the ground for dressing purposes. It has been thought



FIG. 69. (Full Size.)

they were employed as pins or as buttons for fastening articles of clothing about the person. Figures 68 and 69 show about the maximum and minimum lengths of these objects. Those here figured were found in Brant county by Mr. E. C. Waters.

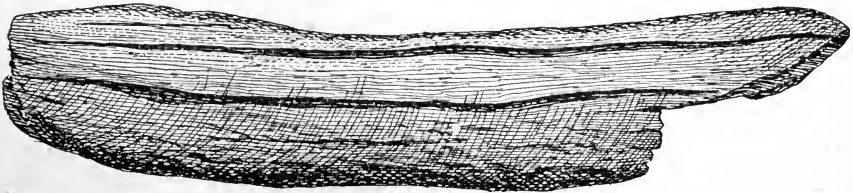


FIG. 70. ($\frac{1}{4}$ Size.)

Figure 70 represents a portion of an antler on the outer surface of which two deep longitudinal cuts have been made as if with the intention of cutting off strips. The cutting seems to have been performed with some short tool, probably a flint flake. The marks produced by the action of the cutter are still to be seen on the sides of cuts. E. C. Waters, Brant county.

The object here figured was no doubt used as a pipe and is the only one of horn in the museum. The bowl is a little over an inch deep. The stem-hole shows that it has been drilled with a rough-edged instrument, no doubt, flint. The



FIG. 71. (Full Size.)

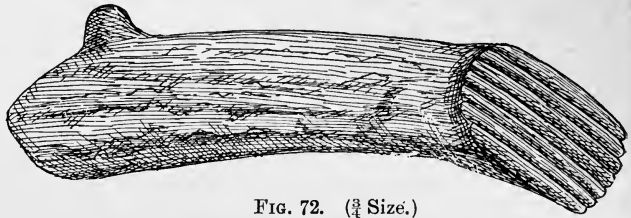


FIG. 72. ($\frac{3}{4}$ Size.)

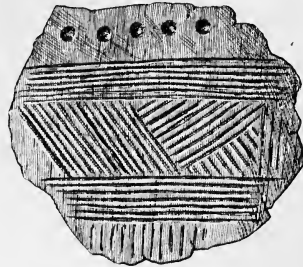


FIG. 73.

lower end is rounded, and the work has been performed with a not over-sharp knife of some sort. An attempt has also been made to round off the outside of the edge forming the lip of the bowl. E. C. Waters, Brant county.

On the prominent end of figure 72 is a series of seven ridges and six grooves. The bottom of each groove is angular, and still retains the marks made by the rude tool that did the cutting, while the faces of the ridges are smooth and round, as if the result of wear. What strikes one as the most likely use for such a tool is the marking of pottery. Having tested it on a piece of clay (see fig. 73), satisfactory results were produced—perhaps the results were too satisfactory, for the pattern I formed possessed a regularity that seldom characterizes the line-markings on Indian pottery, and this without any attempt on my part to be at all exact. Besides this, I found that the pressure required to make the lines deep enough would be likely to throw the vessel out of shape, unless, indeed, we suppose that one hand supported the material inside, while with the other the pattern was produced outside. It is, at any rate, certain that the tool *could* have been used in this way, but that it *was* so used it would be rash to assert. E. C. Waters, Brant county.

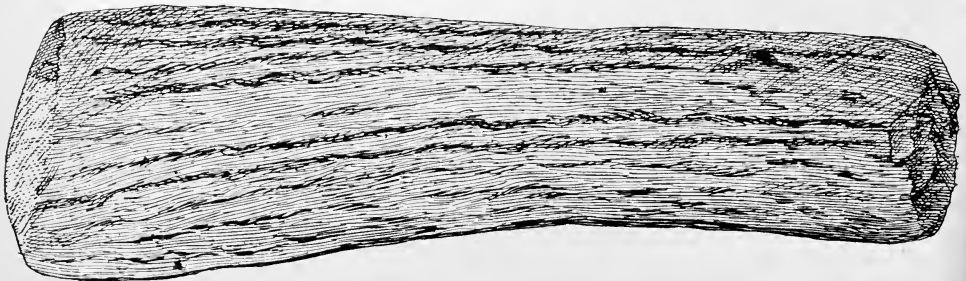


FIG. 74. ($\frac{1}{4}$ Size.)

Implements like the horn specimen figured here are not found very frequently, perhaps rather on account of their liability to decay than because there

were not many in use. This one is nine and one-fourth inches long, and two and three-fourths across its widest part. For cutting purposes it never could have been of much account, but as a tool for the removal of bark from trees, or as a spade, or a hoe, it was capable of doing fairly good work. The edges bear the tool-marks of him who shaped the implement, but for fully half the distance from the sharpened end, these are worn smooth, just as we might expect to find them if the implement had been used as here suggested. E. C. Waters, Brant county.



FIG. 75.

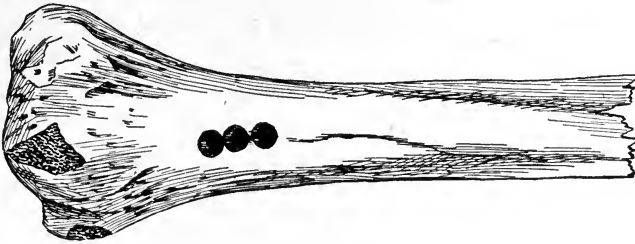


FIG. 76.

In a gravel-pit near the town of Simcoe were found the lower thirds of two human femurs, and the whole of a tibia, each of which is bored as seen in the illustrations. The other fragmentary femur is not shown, because it corresponds in every particular with the one represented here, except that it is a little shorter. In the tibia (only part of which is engraved) it will be observed that three holes are bored side by side, and in line. Unfortunately, since the find was made, a mouse has made free with this specimen and has nibbled away the portions that separated the holes. Along with these there were an eyed bone needle of the usual type and a foreign shell (a species of *Natica* also bored), the two being attached by a strand of hair.

Mr. W. P. Byrch, of this city, suggests that these bones were probably so treated, in connection with a belief that stuffing the holes with poisonous substances would induce bodily pains in persons against whom the operator had a grudge. The presence of the bone needle, the shell and the hair, gives colour to the belief that witchery or enchantment had something to do with the boring of the holes in the bones, and with the burial of the bones themselves. Mr. Byrch states that the Indians of Cape Croker still entertain a belief of the kind mentioned.

SHELL.

Fig. 77 seems to be an ornament of some kind made from the columella of a sub-tropical shell. It may have been a tool of some kind, the use of which is not apparent, unless the point at one end and the smooth rounded edge at



FIG. 77. ($\frac{7}{8}$ Size.)

the other are suggestive of application in marking patterns on pottery. It is not likely, however, that material so scarce, and therefore so precious, would be employed in any such way. Mr. E. C. Waters, Brant county.

WOOD.

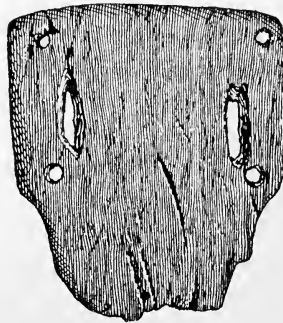


FIG. 78. ($\frac{7}{8}$ Size.)

Fig. 78 is from the child's grave already mentioned. It appears to be the upper portion of a hair-comb, the teeth of which are decayed. In all likelihood it was used for fastening, or adorning, rather than for dressing the hair. The material is wood, and the workmanship would indicate the use of tools other than stone.

IRON TOMAHAWK.

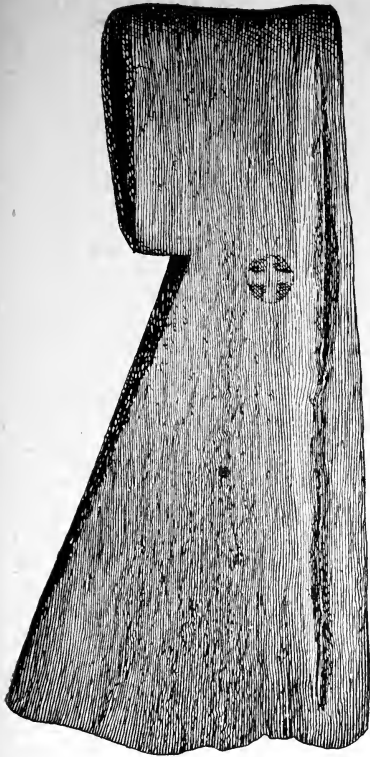


FIG. 79.

thickness of solid iron by friction with flint flakes gives one a glimpse of the patience and tenacity of purpose that characterised the savage Indian. Both of the specimens in our cases are from Brant county, and were found by Mr. E. C. Waters.

COPPER.

A number of sheet-copper arrow-tips like those shown in the accompanying cuts were found by Mr. Robins in some of the graves in Herschell township. These arrow-heads are rudely and carelessly cut from portions of European copper kettles. They must have been quite useless for shooting, and seem to have been made simply as substitutes for flints for burial purposes. The large number of European articles found in some of the graves renders it tolerably clear that although those who made the graves retained the old custom of depositing objects of various kinds with the bodies, they had lost the art of making chip-ped arrow points. Here we seem to have an overlapping of the old and the new order of things, as in many other places where specimens of White manufacture are buried in accordance with the traditional customs of the Indians. In this case arrows were probably regarded as a necessity, and the ghosts of these thin copper specimens were thought sufficient for spiritual uses.

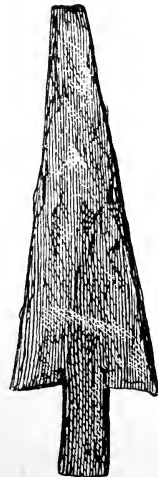
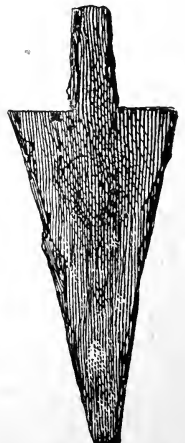
FIG. 80.
(Full Size.)

FIG. 81. (Full Size.)

were thought sufficient

BRITISH COLUMBIA SPECIMENS.

To the kindness of Mr. W. H. Jones, of Vancouver City, British Columbia, we owe the specimens figured in the three following cuts.

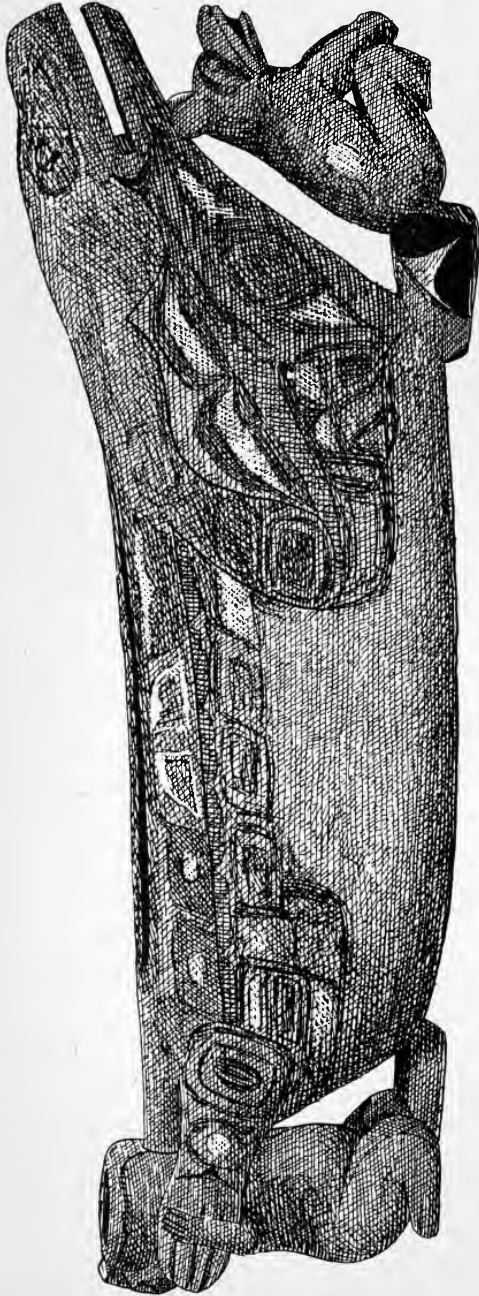


FIG. 82.

Figure 82 was brought to Vancouver by a sea-captain, last spring, from Newitti Head, at the extreme north of Vancouver Island. This would hardly be noteworthy, in consideration of the large number of specimens the natives now manufacture for sale, were it not that this article bears every evidence of belonging to a date anterior to the demand for mere curiosities.

The Hydahs are remarkable for their carving proclivities, both in wood and stone. Their totem-posts are of world-wide fame, and specimens of their artistic handiwork in objects made from black slate may be seen in almost every museum. This specimen appears to show that the Flatheads of Newitti are scarcely inferior to the Hydahs.

Notwithstanding the large amount of work that has been expended on figure 82, it was, in all probability, intended only for a household chest—perhaps for holding food, and corresponding to what is known in Scotland as a “girnell.” It is made of pine, is five feet four inches long, and has been hollowed to the capacity of about two bushels. The main figure represents a seal—the head supporter is said to represent a rabbit or hare, and the figure upholding the tail is a human caricature, the head of which is thrown far back, and the enormously disproportionate mouth forms a deep cup, capable of holding fully a pint.

The characteristic design has been painted in red, white and black, now much worn, and not quite as clear as shown in the illustration.

Figure 83 gives a good idea of a coffin found by Mr. Jones on a small island about fifty miles north of Burrard Inlet. When discovered it was covered with stones and contained two human skulls (see figs. 127 and 128) and some other bones.

Mechanically, this box illustrates the ingenious devices practiced by the

Hydahs in forming right angled, wooden receptables. The cedar, which is a split board, fairly well smoothed, has been half-checked and bent to form three of the corners; the fourth one, where the ends meet, being fastened with wooden pins driven in as nails. The boards that form the top and bottom are much thicker than the other, and they have been roughly slotted to receive the sides,

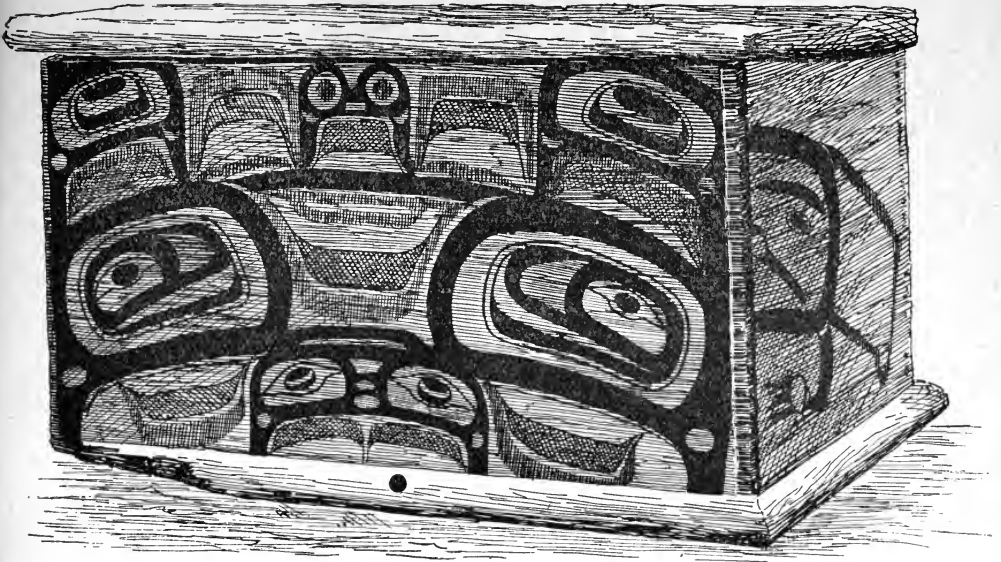


FIG. 83.

the square shoulder on the outside of the slot adding very much to the power against pressure from within, while the inner and sloping side of the slot, fitting tightly against the edge stiffens it against pressure from without.

The bottom is tied to the sides at each corner by means of some spruce root fibre. There was no fastening to the top.

Two sides and one end are painted with devices on the grain of the wood. It is a little over two feet long, and eighteen inches wide.

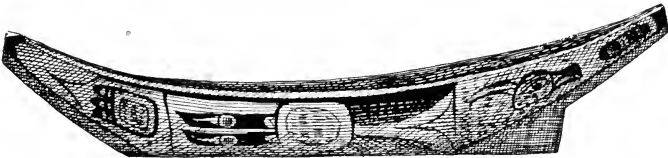


FIG. 84.

Figure 84 represents a model canoe from the same island as figure 82. It is two feet, five inches long.

Since the foregoing was written, I have received the following letter from Mr. Jones. The particulars he gives relative to the coffin and carved seal vessel will be read with much interest.

"Vancouver, British Columbia,
Nov. 30, 1891.

"The Indian coffin I sent was found on a small Island not more than 40x60 feet, situated in Pendar Harbor, a small land-locked bay about 50 miles north of

Burrard Inlet. The island consists of rock and shingle with scarcely more than two inches of mould upon it at any place. The centre of it was covered by scrubby cedar and grass. The coffins were all near the highest part of the mound, among some cedar brush, but whether that had been brought there by the natives when they deposited the remains of their relatives and friends upon this sequestered little island, I cannot say. The boxes were, as nearly as possible, of the same size and all had been covered at one time with split cedar boards, almost similiar to the sides of the coffin, held in place by boulders weighing from 25 to 75 pounds. In some of the boxes we found two skeletons but in most only one. Decomposition had so far advanced that we could not ascertain whether the remains of the deceased had been cut limb from limb in order to get them into such narrow quarters, nor could we determine whether the two corpses whose skeletons we found in the one coffin, had been put there about the same time, or one after the other had decomposed. Only two of the score of coffins that there may have been on the island, were remarkable; that I have sent was the only one on which there was any painting. It was found near the centre of this group of strange looking graves, and the stones upon the lid were heavier than on the others, and there were more of them. Another coffin had been placed upon a small, clumsily hewn-out canoe, about 8 feet long and scarcely large enough to accommodate one man.

"From what I could learn by inquiry and judging from the state of the preservation of the wood in these coffins, it is probable they had been on that sland for upwards of fifty years and perhaps a hundred. Some of the Indians of the British Columbia coast place the remains of their deceased friends in caskets very much like these and suspend them among the branches of trees, and on one or two occasions trouble has been threatened from fires made by settlers to clear the land having spread to the wood and burned the trees in which these bodies were. The figures on the coffin are common to all the tribes of the northern Pacific coast, and are supposed to be a representation of the all-seeing eye. The coffin sent is a very fair sample, I think, of the kind of casket used for the dead by the Flat-head Indians or Siwashes of British Columbia, who inhabit the coast from the north of Vancouver Island to Puget Sound, though I think the idea of painting it, and especially the design came from their intercourse with the Haidah Indians whose home is the Queen Charlotte Islands.

"The figure of the seal carved in wood, and supported by smaller figures at each end, was probably used as a tureen in the cabin of a chief of the Newitti Indians. It was brought from Newitti Head at the extreme north of Vancouver's Island in Nov. 1890 by Capt. Jas. W. Anderson, who was there on a halibut fishing expedition in the steamer Velos of Vancouver. The Indians of Newitti belong to the Flatheads, but having travelled somewhat more than their brethren of the south, and especially having come so frequently in contact with the Haidahs, of Queen Charlotte Islands have adopted many of the arts of the latter, who are among the most advanced in civilization of any of the aboriginal tribes of America, and have learned the arts of carving in wood and painting. Some who have visited these places are doubtful whether they do any of the carving with which their cabins are so profusely supplied, themselves, but prefer to think that they have bought it all from the Haidahs. The cabins of the Newittis are usually quadranglar in shape, made of split cedar, around the inside is a platform of these cedar boards, about four feet wide, inside this is the level ground floor of the cabin, with a hole about two feet in depth, hollowed out in the centre, in which the fire for the household is built and the cooking done. The entrance to the cabin is often through a movable door cut out of the trunk of a huge cedar, which may be 20 to 30 feet in height and carved to the top in numerous grotesque figures, the whole being known as totem-poles. Many of their utensils for

household use are of wood, carved in various ways but in nearly all these carvings the figures of the raven, the bear, the wolf or the big fish are seen, but frequently, however, the design consists of a union of two or more of these forms. In all of the representations of these animals, the eye is made large and prominent, their recognition of the presence of the all-seeing eye of the Great Spirit.(?)

"Yours truly,

"W. H. JONES."

Now on the way from British Columbia are the following specimens procured from Mr. Rowland E. Green :—

- 3 Slate totem poles.
- 1 Copper shield.
- 1 Pair silver bracelets.
- Abilone shells.
- 8 Horn spoons.
- 1 Spruce fibre hat.
- 1 Water basket.
- 1 Medicine man's (Shaman's) horn.

Regarding these, Mr. Green sends the following interesting notes :—

"The slate totem poles are from Skidegate Inlet, Queen Charlotte's Island the only place where such soft slate is found. The smallest of the three is priced by the H. B. Co., at Fort Simpson at \$7, and the other two, more in proportion, according to size, up to as high as \$20. The Indians employ their time during the winter months in making these and bracelets such as the pair I send. The latter are much smaller than the usual run of bracelets, each one is made from a twenty-five cent piece, they sell at \$3 to \$4 per pair. The copper shield or coat of arms came from Clew between Moresby and Provost Island in Genushewa Inlet. It is beaten out of native copper found on Skedauz Island. They are valued by tribes other than the Hydahs, at an enormous price. At Alert Bay in the Indian graveyard is a board over the grave of a chief which contains a tally of the number of blankets his copper was valued at. I counted up to seventy-five, but as after that it was confused I could not make out the exact number. Seventy-five blankets each of which costs at least \$2.50 makes the value \$187.50. A trader up north has a copper not any better than yours for which an Indian offered him \$50 gold coin and the offer was scorned. I, myself, in days gone by was asked by a chief to lend him \$20 to make up a sum he had to pay for a copper. If I remember right the amount was \$300.

"The abilone shells I procured at Clew, Q. C. I., to show what the mother-of-pearl which you see inlaid in the horn spoons, was composed of. The fossils I picked up on the beach at the same place. The horn spoons eight in number, are made from the horns of the mountain goat and the cow, and are carved according to the particular tradition which it represents. You will notice that both in these and the totems the predominating faces or figures are man, bear, wolf, fish, frog and raven, and sometimes you meet with a mixture between two of them, half fish and half bear or half man. I saw an Indian carving a bracelet on which was the representation of a bear's body with a fish's tail. I asked why he put such a thing on the bracelet, and he answered that long ago their ancestors had seen such in those waters. They can imitate any pattern you like to give them and can work in any metal that is malleable. You will often see bracelets with a perfect representation of the American eagle as it appears on the half dollars and dollars.

"I suppose you wish to know the use of the spoons ; they are used at all meals but not generally such valuable ones as these which fetch \$3 readily in Victoria and over the Sound. They have others of the same shape, but plain and made of wood only. A lady who was at a marriage feast of a chief and chieftainess told me that one of the ceremonies was the bridegroom marched with his friends carrying big presents of biscuit, sugar, molasses, dried fruits, fish (dried), and oolachan grease with berries. (This grease is the most horribly stinking stuff to a white man that you can imagine.) After they had feasted, the chief toasted his bride in a spoon big enough to hold a pint, full of this oolachan grease, he emptied himself another and then filled it and handed it to her and she was compelled to do likewise, as it is considered a bad omen to spill or waste a drop. That bride is a widow, and at present the head chief of Fort Simpson, Soodall by name.

"The hat and basket are both made of the fibres of the root of the spruce tree which are boiled, and then beaten till they become disintegrated strings, of which the hat and basket are composed ; if soaked in water the fibres swell and become waterproof enough to carry water in them. They are practically indestructible from fair wear and tear. The medicine man's horn is made of wood and bound together with the same material of which the hats are made. This and several other instruments, such as drums, fifes, and tom-toms are used by the native doctors in their incantations over the sick, to drive away the devil, and if the devil is anything like a human being he must indeed get scared, for the hubbub and noise are something awful. This practice is however very seldom used of late, as the Hydahs with a few exceptions have embraced Christianity, and to all appearances are, for new converts, pretty strict in their adherence to their religious vows.

"Of numbers of villages which composed one of the most powerful and numerous of the nations on the north-west coast there remain now but three villages, Massett, Skidegate and Clew. The first numbers between 200 and 250 persons, the second, about 100 all told, and the last not more than 84 or 85. To add to their misfortunes, on arriving on the mainland in March last to work in the canneries, hardly a soul of them but was prostrated with la grippe. Massett lost a few old hands, but Skidegate and Clew lost terribly. The latter especially, lost out of 98 counted last fall during six weeks previous to my visit there, eleven, and one was dying whilst I took the census. Many others were sick at the time but most of them bid fair to pull through. In conclusion I wish to say that these Hydahs of Queen Charlotte Islands and those of Prince of Wales Island in American territory who speak the same language, appear to be a different race altogether from the rest of the coast tribes. They are more proud and haughty, and consider it a degradation to do what they know to be wrong ; they also make a proud boast that *they never killed a white man*. No other tribe on the coast can say so.

"I must close by hoping you will be pleased with my description, and if so, at some future date I will give you a resumé of what I have ascertained in regard to the coast Indians of British Columbia generally.

"I am, Sir,

"Yours very respectfully,

"ROWLAND E. GREEN."

CRANIA.

For two or three years it has been my intention to embody in one of these reports the results of measurements, made on the skulls, in the museum. One deterrent reason was a fear that the quantity of material was not large enough, for, in the words of a distinguished anthropologist, "The first thing which is requisite for craniometrical study, is a sufficient number of specimens. * * * * The archæologist, therefore, should collect the most likely specimens he can find, and not take *any* he may lay hold of, and bring them to the laboratory with the question, Are these the skulls of so and so? * * * * Twenty skulls of the same sex, are sufficient in general to remove all questions of difficulty; but this number is necessary." Want of material, however, no longer constitutes a reason why such work should not be done, and I have been fortunate in securing for this purpose the professional services of those who were able to execute it much more satisfactorily than I could ever hope to perform it myself.

Where special attention is given to cranial examinations, many mechanical devices are employed for the purpose of obtaining exact results, and it may be in order to explain here that the only apparatus used for the following measurements consisted of tape-line and callipers. This not only rendered the labor exceedingly tedious, but, notwithstanding the great care exercised, failed probably to secure such absolute nicety as could be wished for in measurements of this kind.

None but those who have attempted such work, can realise the number of difficulties that present themselves in securing accuracy. "Bernard de Palissy maintained that the human skull is the most irregular formed figure in nature, and gave expression to a sentiment in which all must agree who are commencing craniometrical researches. 'I have a desire,' he says, 'to measure the head, in order directly to know its dimensions, and it appears, to me, that the sauterelle, the rule and the compasses would be very proper instruments to employ for that purpose, but the fact is I can never be sure of my measurements.*'"

For the purpose of emphasising the character of the following results, it may be pardonable to state, that both of my assistants are graduates of Trinity University, Toronto, that one is now a practising physician in the city of Hamilton, and the other is demonstrator of anatomy in the Toronto Women's Medical College. I am glad to take this opportunity of thanking them both for the time and attention they have gratuitously bestowed on the work.

CRANIAL MEASUREMENTS.

DEAR SIR:—In accordance with your request, and with the assistance of Dr. Letitia K. Meade, I have measured and examined certain of the Indian skulls in the Institute's collection, and herewith present the results of the work done.

The measurements have been made as carefully and accurately as limited time and scant apparatus would permit. On one or other of these grounds also, some calculations are wholly omitted.

At first we examined and gauged upwards of one hundred skulls, according to the rules laid down by Michele Centonze, but the accompanying results are mainly in agreement with the methods of Professr Paul Brooca, and Dr. Paul Topinard of Paris. Some assistance too, was procured from references made to Morton's *Crania Americana*.

* Paul Topinard, "Anthropology" p. 223. London, Chapman and Hall, 1890.

As it is recommended by anthropologists that observers, for the guidance of readers, should always state the points of measurement, those we employed are herewith given.

Diameters.

Maximum antero-posterior diameter, from glabella to the farthest point of the skull behind.

Maximum transverse, from the two lateral points on the skull most distant from each other, avoiding the mastoid portion of the temporal.

Vertical, basilo-bregmatic, from the basion to the bregma.

Transverse frontal, minimum or inferior, at the narrowest part of frontal bone just above the superciliary ridges.

Transverse frontal, maximum, from stephanion to stephanion.

Transverse occipital, from one asterion to the other.

Curves.

Median frontal sub-cerebral, from the nasal to the supra-orbital point.

Median frontal cerebral, from supra-orbital point to bregma.

Median parietal, from bregma to lambda.

Median occipital supra-iniac, from lambda to inion.

Median occipital cerebellar, from inion to opisthion.

Transverse supra-auricular, from a point situated above the auditory foramen on the longitudinal root of the zygomatic process, through the bregma to the analogous point on the opposite side.

Horizontal, circumference from supra-orbital point across temporal ridge of frontal bone at the points from which the minimum frontal measurements were taken to maximum occipital point and thence round opposite side of skull to starting point. The horizontal anterior circumference extends on each side to the line of the curve of the transverse supra-auricular circumference the posterior horizontal circumference from this to maximum occipital point.

Face.

Length from ophryon to alveolar point.

Width, bizygomatic.

Length, skeleton of nose, from naso-frontal suture to nasal spine.

Width, skeleton of nose, greatest width of anterior orifice of nose.

In describing the inion M. Broca's method has been adopted and numbers from 0 to 5 have been made of use to indicate the size of this process, 0 corresponding to its complete obliteration, 5 to its maximum development. The pterion is marked H or K according as it resembles either of those letters.

The part of the face to which the plane of the artificially lengthened occipital foramen comes is marked in the notes, A, E, I, O, U:—A corresponding to the alveolar point, E to the nasal spine, I to the position of the inferior turbinated bone, O to the point at which the inferior border of the orbit reaches the median line, and U to the median point situated at the top of the os unguis. This method is also that, employed by M. Broca.

Those measurements marked (app) have been taken in skulls whose measuring points were broken so that only approximate results could be obtained.

The average cephalic index of the 35 skulls in which the requisite measurements could be obtained, was 74.6 thus placing them among the dolichocephalic crania of Broca's classification, or among the orthocephalic skulls according to Prof. Huxley's nomenclature.

The average vertical index amounted to 73.5, and the frontal and stephanic to 67.6 and 88.4 respectively.

In calculating these averages the artificially deformed skulls A, B, C, and D from British Columbia and Arkansas were not taken into account.

Yours respectfully,

SUSANNA P. BOYLE, M.D., C.M.

KEY TO MEASUREMENTS.

DIAMETERS.

1. Antero-posterior diameter.
2. Transverse “
3. Vertical “ basion to bregma.
4. Transverse frontal, minimum.
5. “ “ maximum.
6. “ occipital “

CURVES.

7. Median frontal, sub-cerebral.
8. “ “ cerebral.
9. “ parietal.
10. “ occipital, supra-iniac.
11. “ “ cerebellar.
12. Transverse, supra-auricular.
13. Horizontal, anterior.
14. “ posterior.
15. “ total.

FACE.

16. Length.
17. Width.
18. Length, skeleton of nose.
19. Width “

INDICES.

20. Cephalic.
 21. Frontal.
 22. Stephanic.
 23. Vertical.
-

MEASUREMENTS—CRANIOMETRY.



Fig. 84. No. 3.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 60	1	170
Sex, female	2	139
Sutures, not distinct, serrations, simple.	3	132.5
Inion, 3	4	80.8
Pterion, H	5	107
Part of face artificially lengthened, occipital..	6	105
foramen comes to. E.	7	15
Lateral parietes, protuberant.	8	105
Glabella, absent	9	115
Superciliary arches, slight.	10	70
Form of forehead, somewhat retreating.	11	43
Frontal eminences, small	12	310
Vault, roof-shaped	13	230
Probola, medium	14	270
Sub-iniac curve, level with condyles	15	500
Hollow at root of nose, deep.	16	76
Inferior border nares, heart shaped	17	128
Mastoid process, small	18	43
	19	20.6
	20	81.7
	21	58.1
	22	75.4
	23	77.9

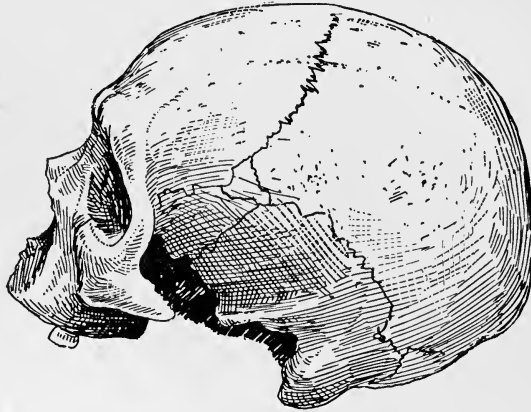


Fig. 85. No. 4

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 40	1	202
Sex, male	2	146
Sutures, serrations simple, intermaxillary	3	136
slightly marked	4	97
Wormian bones, two present, in lambdoid and	5	110
masto-occipital sutures	6	110
Inion, 0	7	20
Pterion, H	8	110
Artificially lengthened occipital foramen comes	9	122
to E.	10	48
Lateral parietes, bulging	11	70
Glabella, prominent.....	12	289
Superciliary arches, prominent	13	235
Frontal eminences, absent	14	280
Forehead, receding	15	515
Vault culminates at bregma	16	90
Conformation of vault, roof-shaped	17	132
Probola, projecting and rounded	18	53
Sub-iniac curve, flattened	19	30
Mastoid process, large, tubercular	20	72.2
Hollow at root of nose, shallow	21	66.4
Inferior border of nares, shallow curves.....	22	88.1
Muscular attachments all well marked.....	23	67.3

See page 60 for Key to Measurements.



Fig. 86. No. 5.

*Cranioscopy.**Craniometry.*

Millimetres.

Face gone.	1	196
Age, 60	2	149
Sex, male	3	140
Sutures, deep and complex serrations, sagittal	4	93
bulging from bregma to $\frac{3}{4}$ in. of obelion..	5	110
Inion, 5, rough	6	112
Pterion, H	7	20
Artificially lengthened occip. foramen comes to	8	116
E	9	118
Glabella, prominent	10	75
Superciliary arches, prominent	11	52
Frontal eminences, absent	12	295
Forehead, retreating	13	245
Vault culminates, 5.2 centimetres behind	14	285
bregma	15	530
Mastoid process, large, rough	16	
	17	
	18	
	19	
	20	76.02
	21	62.4
	22	84.5
	23	71.4

See page 60 for Key to Measurements.



Fig. 87. No. 6.

*Cranioscopy.**Craniometry.*

		Millimetres.
Face and base of skull gone.	1	175
Age, 50.....	2	155 (app.)
Sex, female.....	3	
Sutures, serrations simple, except lambdoid....	4	101
Pterion, H.....	5	111
Inion, O.....	6	110
Artificially lengthened, occipital foramen....	7	21
Lateral parietes, protuberant.....	8	110
Glabella, absent.....	9	109
Superciliary ridges, small.....	10	77
Frontal eminences, small.....	11	imperfect.
Forehead, straight.....	12	"
Median line, slightly elevated from glabella to	13	"
a point between parietal eminences.....	14	"
Probola, medium in size. Rounded.....	15	"
	16	"
	17	"
	18	"
	19	"
	20	88.5
	21	65.1
	22	90.9
	23	

See page 60 for Key to Measurements.

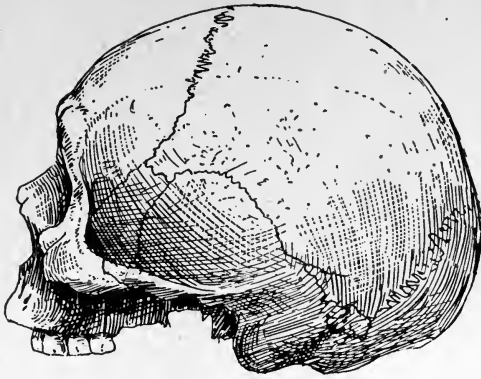


Fig. 88. No. 7.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 45.....	1	186
Sex, male.....	2	143
Sutures, simple, sagittal depressed between	3	134
parietal eminences and lambda. Depression	4	97
in left lambdoid suture.....	5	110
Wormian bones, small one in masto-occipital	6	110
suture.....	7	19
Inion, 2.....	8	103
Pterion, H.....	9	115
Artificially lengthened occipital foramen comes	10	83
to I.....	11	29
Lateral parietes, markedly bulging.....	12	297
Glabella, medium.....	13	232
Superciliary ridges, medium.....	14	267
Frontal eminences, rudimentary.....	15	499
Forehead, receding.....	16	91
Vault culminates at bregma.....	17	140
Probola, small, smoothly rounded.....	18	47
Sub-iniac curve, extends below condyles.....	19	27
Mastoid process, small, rough.....	20	76.8
Hollow at root of nose, shallow.....	21	67.8
Inferior border of nares, heart-shaped.....	22	88.1
	23	72.0

See page 60 for Key to Measurements.

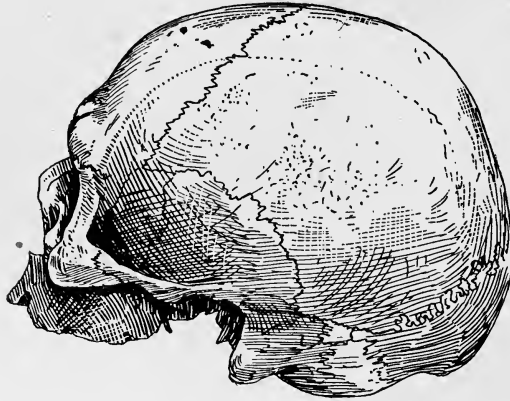


Fig. 89. No. 8.

*Cranioscopy.**Craniometry.*

		Millimetres.
One zygoma broken.	1	180
Age, 50.....	2	138
Sex, male.....	3	136.5
Sutures, simple serrations.....	4	96
Pterion, H.....	5	114
Inion, O.....	6	114
Artificially lengthened occip. foramen comes to I	7	13
Lateral parietes, moderately full.....	8	170
Glabella, small.....	9	125
Superciliary ridges, well developed.....	10	82
Frontal eminences, moderate in size.....	11	30
Forehead, straight.....	12	300
Median line, prominent to a point midway be-	13	240
tween inion and vertex where there is a	14	265
depression.....	15	505
Vault, somewhat keel-shaped.....	16	80.4 (app.)
Probola, very prominent, globular.....	17	130 (app.)
Sub-iniac curve, level with condyles.....	18	53
Mastoid process, medium.....	19	20.9
Hollow at root of nose, shallow.....	20	76.6
Inferior border nares, tends to the horizontal..	21	69.5
Infra-orbital foramina, large. Left measures	22	84.2
6.5 mm. transversely.....	23	75.8



Fig. 90. No. 9.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 65.....	1	184
Sex, male.....	2	149
Sutures, serrations very complicated.....	3	140
Pterion, H, but on left side bridge very narrow	4	100
Artificially lengthened occipital foramen comes	5	108
to E.....	6	114
Inion, 4.....	7	16
Lateral parietes, bulging.....	8	112
Glabella, very prominent.....	9	135
Superciliary ridges, very prominent.....	10	55
Frontal eminences, small.....	11	62
Forehead, retreating.....	12	300
Median line, presents at 2 centimetres above	13	240
lambda a rounded eminence about 2 cen-	14	286
timetres in diameter.....	15	526
Probola, not prominent.....	16	83
Sub-iniac curve, level with condyles.....	17	147
Mastoid process, very long, thick and rough,	18	54
one is 30.8 millimetres in length.....	19	27
Malar bones, very thick, with muscular attach-	20	80.9
ments strongly marked.....	21	67.1
Hollow at root of nose, shallow.....	22	92.6
Inferior border nares, heart shaped.....	23	76.0
Inferior border orbit, much thickened.....		
Muscular attachments, very strongly marked on		
all parts of the skull. Posterior root of		
zygoma is raised behind into a prominent		
ridge with sharply marked hollow behind		
it. Similar markings are present on each		
side in lambdoid suture about 2 centim.		
above asterion, groove looking backward		
and inward. On superior curved line is		
another sharp depression looking upward		
with a ridge below it.....		

No. 9.—Continued.

Cranioscopy.

Teeth, none present. Alveolar borders smooth.
 Temporal line, reaches to within 4.4 centimetres
 of median line at bregma. Temporal fossæ
 thus very large.....
 All foramina are surrounded by a rounded
 ring of thickened bone....

Craniometry.

Millimetres.

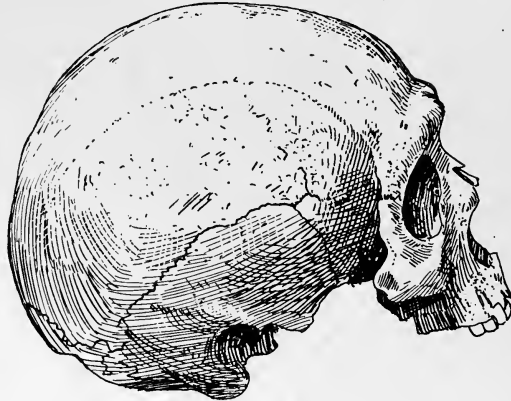


Fig. 91. No. 10.

*Cranioscopy.**Craniometry.*

Millimetres.

		Millimetres.
Age, 70.....	1	199
Sex, male.....	2	130
Sutures, simple. In some places obliterated....	3	134
Inion, 0.....	4	91*
Pterion, H.....	5	85*
Artificially lengthened occipital foramen comes to I.....	6	106
	7	8
Lateral parietes, flattened, perpendicular.....	8	112
Temporal ridge, from metopic point to this line	9	130
45 mm., bregma to stephanion, 47 mm....	10	45
Glabella, prominent.....	11	67
Superciliary ridges, prominent and rough....	12	278
Frontal eminences, slight.....	13	239
Forehead, retreating.....	14	270
Probola, bulging.....	15	507
Sub-iniac curve, flattened.....	16	71
Mastoid processes, thick, rough, medium length	17	Both zygomas gone.
Median line, raised from glabella to obelion..	18	53
Vault, keel-shaped.....	19	28
Hollow at root of nose, deep.....	20	65.3
Inferior border of nares, shallow.....	21	70
	22	107
	23	67.3

*In this case the high curve of the temporal lines makes the so-called maximum frontal diameter appear less than the minimum.

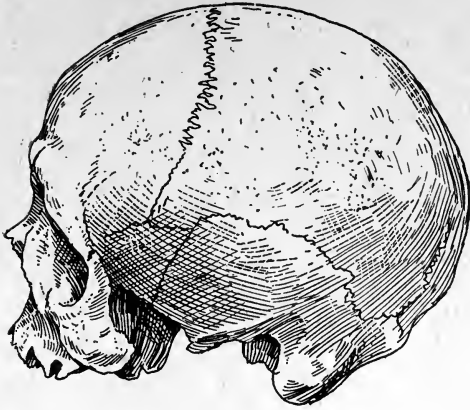


Fig. 92. No. 11.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 35-40	1	180
Sex, female	2	140
Sutures, serrations small but not complex.....	3	140
Pterion, H	4	99.
Inion, O	5	112
Artificially lengthened occipital foramen E..	6	111
Glabella, absent	7	14
Superciliary arches, small	8	110
Frontal eminences, slightly marked	9	124
Forehead, straight	10	71
Median line, elevated in parietal region.....	11	39
Probola, globular, bulging	12	297
Sub-iniac curve, level with condyles	13	235
Mastoid process, large and very deeply grooved	14	272
posteriorly	15	507
Hollow at root of nose, scarcely any present..	16	67 app.
Inferior border nares, grooves shallow	17	137
	18	49
	19	30
	20	77.7
	21	70.7
	22	88.3
	23	77.7

See page 60 for Key to Measurements.

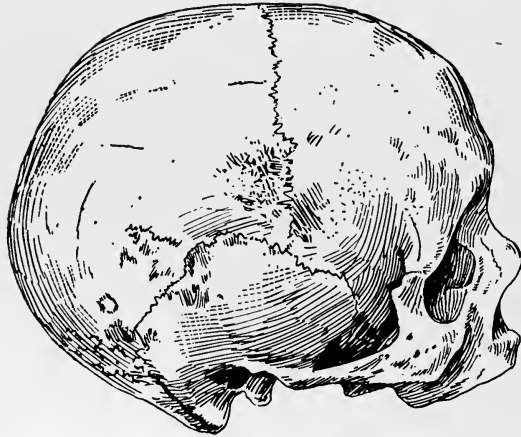


Fig. 93. No. 12.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 70-80	1	198
Sex, male	2	154
*Sutures, obliterated	3	140
Pterion, H.	4	111
Artificially lengthened occipital foramen comes to O.	5	120
	6	118
Wormian bones, one small, at posterior inferior angle of parietal.	7	12
	8	125
Lateral parietes, bulging	9	135
Temporal line, crosses parietal eminences.	10	85
Glabella, medium	11	46
Superciliary arches, medium	12	312
Frontal eminences, prominent, united	13	252
Forehead, straight	14	307
Vault culminates 2.5 centimetres behind bregma	15	559
Probola, prominent, globular	16	78
Inion, 2	17	145
Mastoid processes, thick, short, rough	18	54
Hollow at root of nose, moderate	19	29
Inferior border nares, shallow	20	77.7
Septum nasi, divergent	21	72.0
	22	92.5
	23	70.7

* In cut the sutures are too sharply defined.



Fig. 94. No. 13.

*Cranioscopy.**Craniometry.*

		Millimetres.
Face gone.	1	195
Age, 66-70	2	135
Sex, male	3	142
Sutures, almost obliterated	4	96
Pterion, H	5	107
Inion, l	6	114
Lateral parietes, flattened	7	15
Glabella, prominent	8	112
Superciliary arches, prominent	9	135
Forehead, retreating	10	62
Frontal eminences, absent	11	58
Vault, sugar-loaf	12	298
Mastoid process, thick, broad, rough	13	250
Probola, prominent	14	277
	15	527
	16	
	17	
	18	
	19	
	20	69.2
	21	71.1
	22	89.7
	23	72.8

See page 60 for Key to Measurements.

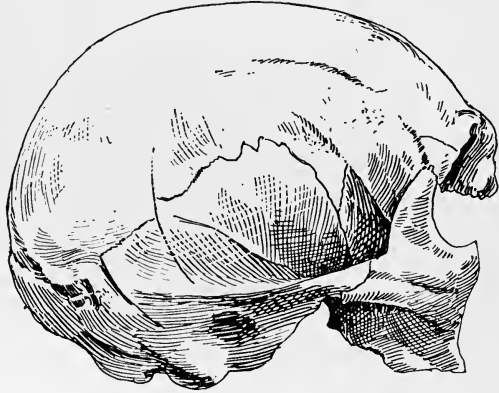


Fig. 95. No. 14.

*Cranioscopy.**Craniometry.*

		Millimetres.
Almost all face gone.	1	193
Age, 60.....	2	144
Sex, male.....	3	134
Sutures, sagittal and coronal almost obliterated.	4	94
Pterion, H.....	5	105
Inion, 4.....	6	105
Artificially lengthened occipital foramen comes to E.....	7	15
	8	115
Lateral parietes, bulging.....	9	120
Glabella, prominent.....	10	69
Superciliary ridges, very pronounced.....	11	50
Frontal eminences, absent.....	12	295
Forehead, receding.....	13	245
Probola, bulging.....	14	275
Sub-iniac curve, extends below condyles.....	15	510
Mastoid process, short, thick, rough.....	16	
Malar bones, thick, wide, projecting.....	17	
Wormian bones one in lambdoid suture, close to lambda.....	18	
	19	
	20	74.6
	21	65.2
	22	89.5
	23	69.4



Fig. 96. No. 15.

*Cranioscopy.**Craniometry.*

		Millimetres.
One zygoma broken.	1	178
Age, 25-30	2	125
Sex, female	3	138.5
Sutures, simple in arrangement.....	4	82
Pterion, H	5	100
Inion, O.....	6	105
Artificially lengthened occipital foramen comes	7	12
to A	8	105
Lateral parietes, flattened	9	120
Glabella, absent	10	58
Superciliary ridges, slightly marked.....	11	60
Frontal eminences, slightly marked.....	12	270
Forehead, receding	13	216
Probola, very prominent, globular.....	14	270
Sub-iniac curve, level with condyles	15	486
Mastoid process, large, rough.....	16	84
Malar bones, slender	17	117 (app.)
Inferior border of nares, almost semi-circular in	18	54
shape	19	22
	20	70.2
	21	65.6
	22	82
	23	77.8

See page 60 for Key to Measurements.

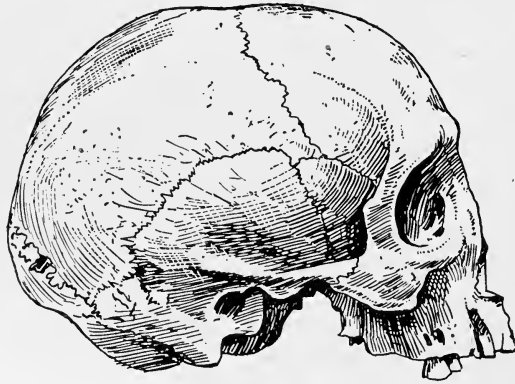


Fig. 97. No. 16.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 30-40	1	180
Sex, female	2	127
Sutures, serrations small and very intricate ..	3	126.5
Pterion, H	4	82
Inion, 2	5	93
Artificially lengthened occipital foramen, I....	6	104
Lateral parietes, moderately protuberant.....	7	15
Glabella, absent	8	109
Superciliary ridges, absent	9	124
Frontal eminences, slightly marked	10	64
Forehead, straight	11	50
Probola, very globular	12	271
Sub-iniac curve, on level with condyles	13	223
Mastoid process, small, slender	14	275
Hollow at root of nose, absent; root of nose	15	498
broad	16	75
Inferior border of nares, shallow grooves.....	17	124 (app.)
Arch of palate, very high	18	51
	19	23
	20	70.5
	21	64.5
	22	88.1
	23	70.2

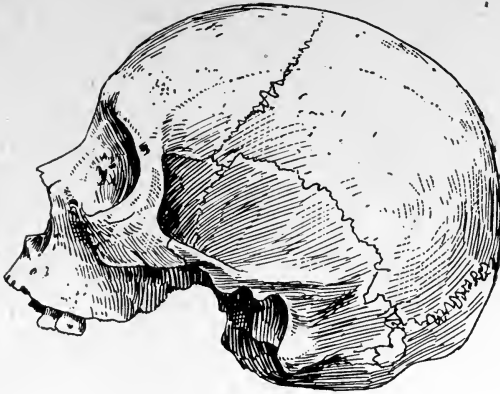


Fig. 98. No. 17.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 50.....	1	173
Sex, female	2	134
Sutures, serrations, simple.....	3	139
Pterion, H	4	89
Inion, 1.....	5	104
Artificially lengthened occipital foramen, mid-	6	103
way between A and E	7	11
Lateral parietes, moderately protuberant.....	8	109
Glabella, absent	9	110
Superciliary ridges, slightly developed.....	10	57
Frontal eminences, absent	11	55
Forehead, straight	12	279
Probola, globular.....	13	222
Sub-iniac curve, on level with the condyles....	14	270
Mastoid processes, small, slender	15	492
Hollow at root of nose, medium	16	72
Inferior border of nares, sharply curved grooves ;	17	130
right lower than left	18	52
Wormian bones, small one in posterior inferior	19	25
angle of left parietal bone.....	20	77.4
	21	66.4
	22	85.5
	23	80.3

See page 60 for Key to Measurements.

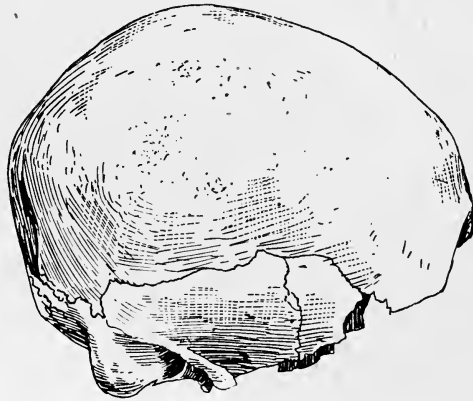


Fig. 99. No. 18.

*Cranioscopy.**Craniometry.*

		Millimetres.
Face entirely gone, with glabella and superciliary arches.	1	
Age, 70	2	155
Sex, male	3	147
Sutures, almost indistinguishable, except lower part of lambdoid and squamous	4	95
Pterion, H.	5	103
Inion, 1, flattened triangular in centre, somewhat elevated at the sides	6	105.5
Lateral parietes, very protuberant from parietal eminences downwards.	7	
Frontal eminences, very small	8	
Forehead, rounded	9	
Probola, slightly protuberant	10	
Sub-iniac curve, extends below condyles	11	
Mastoid processes, short, but broad	12	
Occipital bone, superior curved line strongly marked. On each side of external occipital crest is a small foramen. At outer extremity of inferior curved line on left side is a large rounded prominence. This is also present on right, but is much smaller.	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	61.2
	22	92.2
	23	

See page 60 for Key to Measurements.



Fig. 100. No. 19.

*Cranioscopy.**Craniometry.*

Millimetres.

Face gone.	1	200
Age, 70.....	2	141
Sex, male.....	3	141
Sutures, serrations fine but not deep.....	4	101
Pterion, H.....	5	105.5
Inion, 3.....	6	116
Lateral parietes, moderately full.....	7	11
Glabella, small.....	8	115
Superciliary ridges, medium.....	9	137
Forehead, retreating.....	10	77
Frontal eminences, indistinct.....	11	45
Vault, keel-shaped.....	12	300
Median line, vertex $4\frac{1}{2}$ centimetres behind bregma.....	13	235
	14	298
Probola, globular, prominent.....	15	533
Sub-iniac curve, extends below condyles.....	16	
Mastoid processes, short, wide.....	17	
Wormian bone, one in temporo-occipital suture.	18	
	19	
	20	70.5
	21	71.6
	22	95.7
	23	70.5

See page 60 for Key to Measurements.



Fig. 101. No. 20.

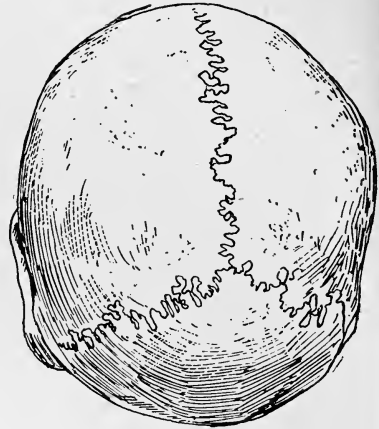


Fig. 102. No. 20.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 50	1	190
Sex, male	2	140
Sutures, deeply serrated.....	3	140
Pterion, H, bridge narrow	4	95
Inion, 4, rough.....	5	111
Artificially lengthened occipital foramen, I....	6	110
Glabella, medium.....	7	15
Superciliary ridges, medium	8	111
Frontal eminences, absent	9	132
Forehead, retreating	10	76
Lateral parietes, slightly bulging	11	48
Probola, globular.....	12	295
Sub-iniac curve, extends below condyles.....	13	230
Mastoid process, small but very massive at root.	14	289
Hollow at root of nose, deep	15	519
Inferior border of nares, curves wide, shallow..	16	72.5
Wormian bones, three present; two in right	17	136
side of lambdoid, and one in occipito-	18	49
mastoid suture of left side. In front of	19	28
each occipital condyle on basilar process is	20	73.6
a distinct tubercle	21	67.8
	22	85.5
	23	73.6

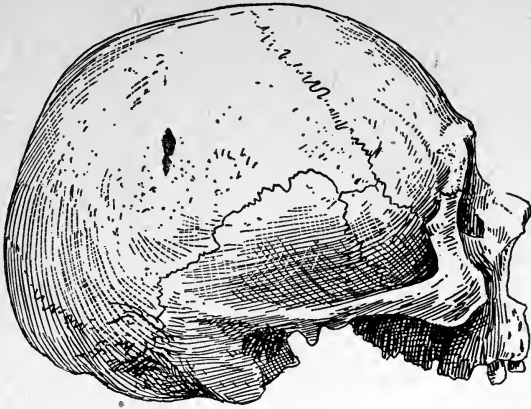


Fig. 103. No. 21.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 66-70	1	192.5
Sex, male	2	141
Sutures, almost obliterated, excepting the lambdoid	3	140
Pterion, H	4	97
Inion, 2	5	107
Artificially lengthened occipital foramen, I.	6	111
Lateral parietes, vertical, flattened	7	13
Glabella, small	8	111
Superciliary ridges, medium	9	130
Frontal eminences, indistinct	10	74
Forehead, straight	11	51
Median line, elevated at sagittal suture	12	304
Probola, prominent	13	230
Sub-iniac curve, on level with condyles	14	302
Hollow at root of nose, medium	15	532
Inferior border of nares, the sides asymmetrical	16	84
owing to marked deviation of septum nasi to the left	17	137
	18	60
	19	27.5
	20	73.2
	21	68.7
	22	90.6
	23	72.7

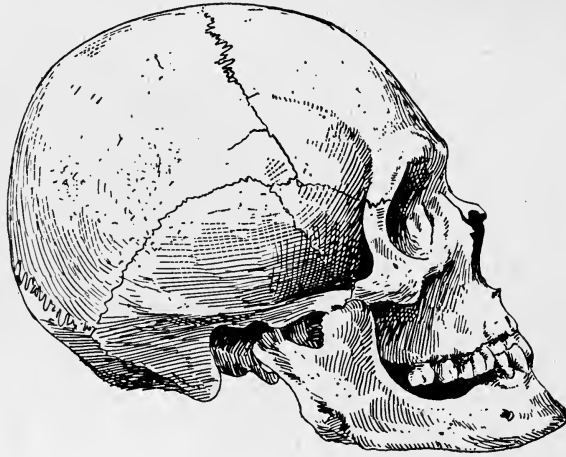


Fig. 104. No. 22.

*Cranioscopy.**Craniometry.*

One side of skull gone.

Age, 30.

Sex, female

Sutures, serrations deep and intricate.....

Pterion, H

Artificially lengthened occipital foramen, I. . .

Lateral parietes, protuberant.....

Glabella, small.....

Superciliary ridges, small

Frontal eminences, absent.....

Forehead, straight

Mastoid processes, small.....

Hollow at root of nose, medium

Inferior border of nares, heart-shaped.....

Millimetres.

1

2

3

135

4

99

5

106

6

7

13

8

110

9

112

10

11

12

290 (app.)

13

14

15

16

82

17

124

18

51

19

27

20

21

22

93.4

23

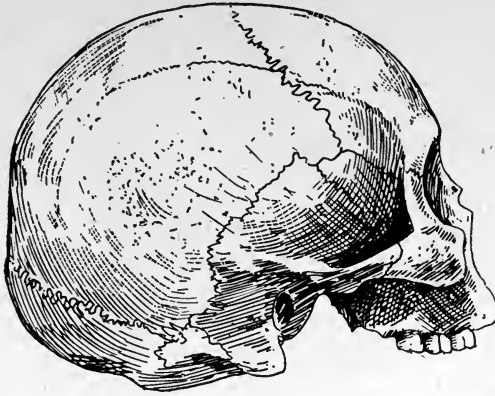


Fig. 135. No. 23.

*Cranioscopy.**Craniometry.*

Millimetres.

Left zygoma broken.	1	176
Age, 20-25	2	135
Sex, female	3	133
Sutures, serrations deep but simple	4	87
Pterion, almost K shaped	5	104
Inion, 0	6	105
Artificially lengthened occipital foramen, I . . .	7	12
Lateral parietes, protuberant, especially below	8	110
parietal eminences	9	127
Glabella, small	10	62
Superciliary ridges, absent	11	56
Frontal eminences, indistinct	12	285
Forehead, straight	13	205
Vault, smoothly curved	14	287
Probola, very prominent, globular	15	492
Sub-iniac curve, on level with condyles	16	79
Mastoid process, small	17	122
Hollow at root of nose, none ; root of nose wide	18	50
and flat	19	26
Inferior border of nares, widely curved	20	76.7
Wormian bones, one small in each occipito-mas-	21	64.4
toid suture	22	83.6
	23	75.5

See page 60 for Key to Measurements.

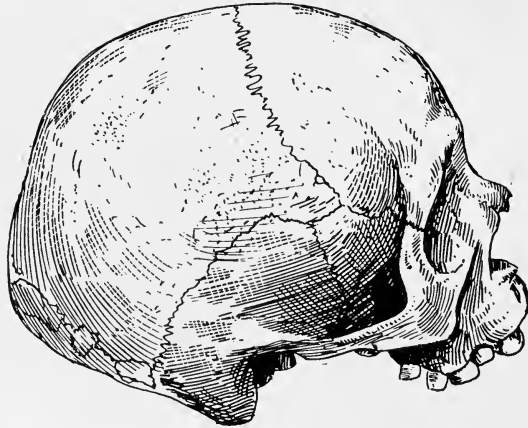


Fig. 106. No. 24.

*Cranioscopy.**Craniometry.*

		Millimetres.
Very thick-walled and heavy.	1	190
Age, 30.....	2	142
Sex, female.....	3	138.5
Sutures, serrations very intricate and deep....	4	102
Pterion, H.....	5	105
Inion, O.....	6	110
Artificially lengthened occipital foramen, E....	7	15
Lateral parietes, protuberant.....	8	128
Glabella, small.....	9	135
Superciliary ridges, small.....	10	75
Frontal eminences, fairly well marked.....	11	44
Forehead, straight.....	12	302
Median line, elevated as far as lambda.....	13	241
Probola, very prominent, globular.....	14	286
Sub-iniac curve, level with condyles.....	15	527
Mastoid process, short, thick.....	16	81
Hollow at root of nose, medium.....	17	140
Inferior border of nares, narrow curves.....	18	52
Wormian bones, os épactal.....	19	24
	20	74.7
	21	71.8
	22	97.1
	23	72.8



Fig. 107. No. 25.

*Cranioscopy.**Craniometry.*

		Millimetres.
Very small.	1	156
Age, 20.....	2	127
Sex, female.....	3	127.5
Sutures, serrations intricate.....	4	85
Pterion, H.....	5	100
Inion, O.....	6	99
Artificially lengthened occipital foramen, E....	7	15
Lateral parietes, slightly protuberant, especially	8	96
at parietal eminences.....	9	104
Glabella, small.....	10	57
Superciliary arches, moderate.....	11	46
Frontal eminences, absent.....	12	270
Forehead, somewhat retreating.....	13	209
Probola, slightly protuberant.....	14	235
Sub-iniac curve, on level with the condyles...	15	444
Mastoid process, small.....	16	76
Hollow at root of nose, shallow.....	17	122
Inferior border of nares, shallow curves.....	18	44
	19	25
	20	81.4
	21	66.9
	22	85
	23	81.7



Fig. 108. No. 26.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 60.....	1	195
Sex, male.....	2	133
Sutures, serrations small, obliterated in many places.....	3	133.5
Pterion, H.....	4	94
Inion, O.....	5	96
Artificially lengthened occipital foramen, I....	6	110
Lateral parietes, protuberant.....	7	13
Glabella, large.....	8	118
Superciliary ridges, well developed.....	9	129
Frontal eminences, small.....	10	76
Forehead, retreating.....	11	45
Mastoid process, broken on both sides.....	12	305
Median line, elevated in parietal region.....	13	255
Probola, medium, globular.....	14	275
Sub-iniac curve, does not extend below condyles.....	15	530
Hollow at root of nose, very shallow.....	16	92
Inferior border nares, heart shaped.....	17	144
Wormian bones, a large one 4.2 centimetres long at lambda, two small elongated in left side lambdoid suture, and another small in right lambdoid suture.....	18	54
	19	26
	20	68.2
	21	70.6
	22	97.9
	23	68.4

See page 60 for Key to Measurements.

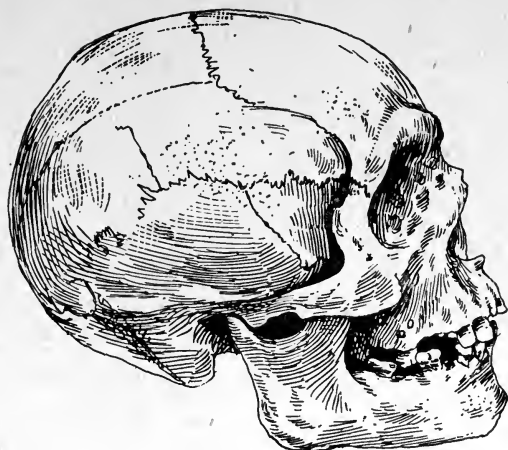


Fig. 109. No. 27.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 70.....	1	194.5
Sex, male.....	2	133
Sutures, serrations deep, simple.....	3	138
Pterion, H.....	4	102
Inion, 3, rough, triangular, with a point projecting downward.....	5	107
Artificially lengthened occipital foramen, E.....	6	109
Lateral parietes, flat, vertical.....	7	8
Glabella, very prominent.....	8	120
Superciliary ridges, very prominent.....	9	118
Frontal eminences, absent.....	10	78
Forehead, retreating.....	11	41
Median line, elevated from coronal suture to a point midway between the parietal foramina, also in middle line of frontal bone there is a longitudinal median eminence present.....	12	292
Sub-iniac curve, does not extend to level of condyles.....	13	235
Mastoid process, long and strong.....	14	280
Hollow at root of nose, shallow.....	15	515*
Inferior border of nares, curves small, shallow..	16	89
Styloid processes, very long.....	17	150
	18	56
	19	27
	20	68.3
	21	76.6
	22	95.3
	23	70.9

* The superciliary ridges in this skull are exceptionally high, so much so that the total horizontal circumference measured over them is 535 millimetres, or a difference of 20 millimetres in excess of the sum of the anterior and posterior measurements, the anterior being taken *above* them.

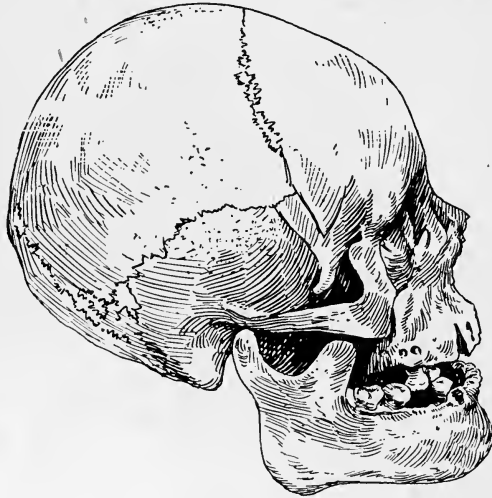


Fig. 110. No. 28.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 25.....	1	182.5
Sex, female	2	134
Sutures, serrations simple	3	140
Pterion, H.....	4	91.5
Inion, depressed instead of elevated, and internally presents no elevation corresponding to external depression.....	5	98
	6	110
	7	10
Artificially lengthened occipital foramen, E...	8	111
Lateral parietes, moderately full	9	125
Glabella, small.....	10	80
Superciliary ridges, medium	11	42
Frontal eminences, indistinct.....	12	293
Forehead, straight	13	218
Median line, raised from bregma to point situated between parietal foramina.....	14	287
	15	505
Probola, slightly curved.....	16	78
Sub-iniac curve, extends below condyles.....	17	134
Mastoid process, short, thick	18	52
Hollow at root of nose, medium	19	27
Inferior border of nares, narrow, sharply curved	20	73.4
grooves	21	68.2
Wormian bones, two present, one in parieto-mastoid suture, and another at lower end of lambdoid suture on right side; both small.	22	93.3
	23	76.7



Fig. 111. No. 29.

*Cranioscopy.**Craniometry.*

		Millimetres.
Face entirely gone.	1	174
Age, 50	2	138
Sex, female	3	128
Sutures, serrations simple	4	85
Pterion, 4.....	5	94.5
Inion, 2 flattened.....	6	111
Lateral parietes, protuberant.....	7	20
Median line, depressed between parietal eminences	8	100
	9	108
Glabella, small.....	10	67
Superciliary ridges, small	11	52
Frontal eminences, indistinct.....	12	283
Forehead, somewhat retreating.....	13	222
Mastoid process, small, thick.....	14	281
Probola, flattened	15	303
Sub-iniac curve, on level with condyles	16	
Wormian bones, a small one at each end of lambdoid suture	17	
	18	
	19	
	20	79.3
	21	61.5
	22	89.9
	23	73.5

See page 60 for Key to Measurements.

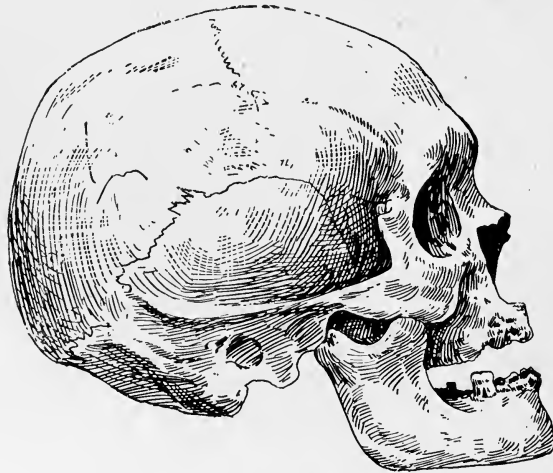


Fig. 112. No. 42.

*Cranioscopy.**Craniometry.*

		Millimetres.
Left zygoma gone.	1	194
Age, 60.....	2	144
Sex, male.....	3	152
Sutures, very simple serrations.....	4	94
Pterion, H.	5	117
Artificially lengthened occipital foramen, below	6	111
A.....	7	14
Inion, 4.....	8	120
Lateral parietes, moderately full.....	9	132
Glabella, very prominent.....	10	58
Superciliary ridges, very prominent.....	11	50
Frontal eminences, slightly marked, united....	12	318
Forehead, straight.....	13	238
Probola, slightly protuberant.....	14	294
Sub-iniac curve, slight.....	15	532
Mastoid process, thick, rough, of medium length	16	82
Hollow at root of nose, pronounced, deep.....	17	148
Inferior border nares, grooves shallow and wide	18	53
Muscular attachments on occiput very strongly	19	27
marked.....	20	74.2
	21	65.2
	22	71.7
	23	78.3

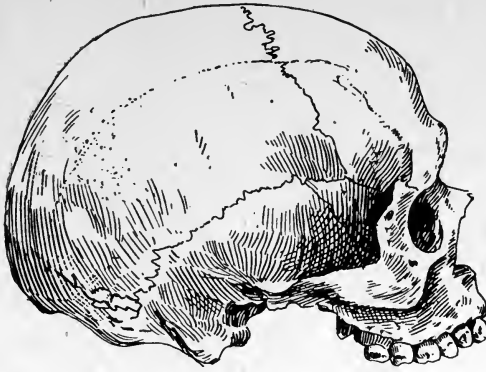


Fig. 113. No. 45.

*Cranioscopy.**Craniometry.*

		Millimetres.
Left zygoma gone.	1	185
Age, 25.....	2	127.5
Sex, female	3	135
Sutures, serrations simple	4	93
Pterion, H	5	104.5
Inion, O.....	6	106
Artificially lengthened occipital foramen, A ..	7	10
Lateral parietes, flat	8	109
Glabella, small.....	9	118
Superciliary ridges, prominent	10	Imperfect.
Frontal eminences, small, united	11	Imperfect.
Forehead, straight	12	285
Probola, medium.....	13	227
Sub-iniac curve, broken.....	14	275
Mastoid process, short, thick.....	15	502
Vault, beautifully curved	16	76 (app.)
	17	128 (app.)
	18	48
	19	28.5
	20	68.9
	21	72.9
	22	88.0
	23	72.9

See page 60 for Key to Measurements.



Fig. 114. No. 47.

*Cranioscopy.**Craniometry*

		Millimetres.
Both zygomatic proesses absent.	1	190.5
Age, 65	2	138
Sex, male	3	144
Sutures, indistinct	4	94
Pterion, H	5	104
Inion, 2, rough	6	105
Artificially lengthened occipital foramen, A ..	7	10
Lateral parietes, protuberant	8	112
Glabella, very prominent	9	119
Superciliary ridges, very prominent	10	77
Frontal eminences, indistinct	11	44
Forehead, markedly retreating	12	295
Median line, elevated from glabella to metopic	13	236*
point where it divides and encloses a	14	279
rounded elevated triangular space which	15	515
extends 3 centimetres on each side of	16	78
bregma, sagittal suture raised	17	141
Probola, medium	18	52
Sub-iniac curve, does not extend below condyles	19	26
Mastoid process, long, rough	20	72.4
Hollow at root of nose, deep, nose has been	21	68.0
broken in life, and is somewhat deflected.	22	90.4
Inferior border of nares, sides ascend rapidly	23	75.5

*Over superciliary ridges=250 mm.

See page 60 for Key to Measurements.

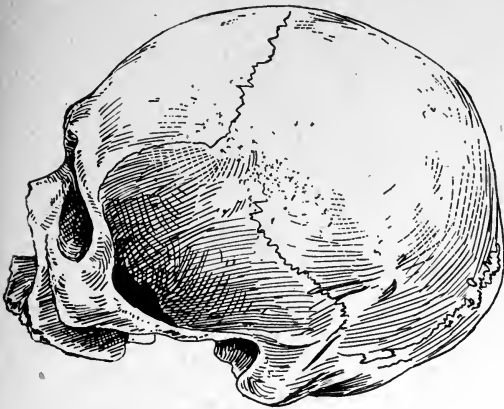


Fig. 115. No. 48.

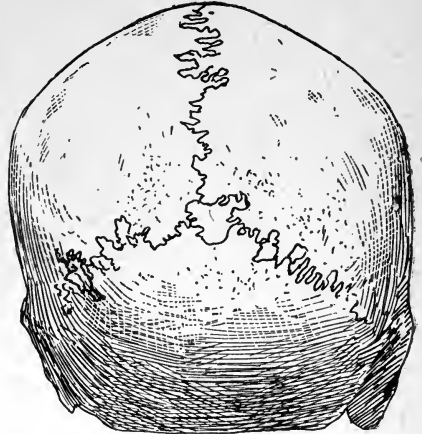


Fig. 116. No. 48.

*Cranioscopy.**Craniometry.*

		Millimetres.
Very heavy.	1	192
Age, 25	2	144
Sex, male	3	146
Sutures, deep, simple	4	96
Pterion, H	5	110
Inion, O	6	110
Artificially lengthened occipital foramen, E..	7	13
Lateral parietes, full	8	112
Glabella, prominent	9	138
Superciliary ridges, prominent	10	72
Forehead, retreating	11	49
Frontal eminences, indistinct	12	311
Probola, globular	13	224
Sub-iniac curve, on level with condyles	14	304
Mastoid processes, short, thick, rough	15	528
Hollow at root of nose, deep	16	94
Inferior border of nares, shallow curves	17	138
Wormian bones, os epactal	18	55
Vault, dome-like	19	28
	20	75.0
	21	66.6
	22	87.2
	23	76.0

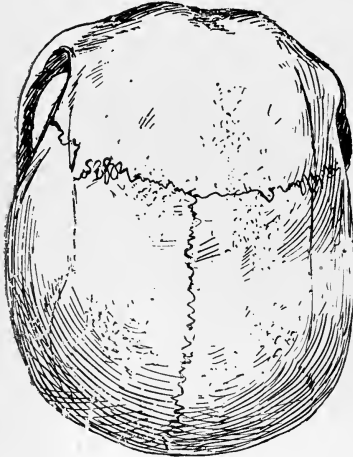


Fig. 117. No. 49.

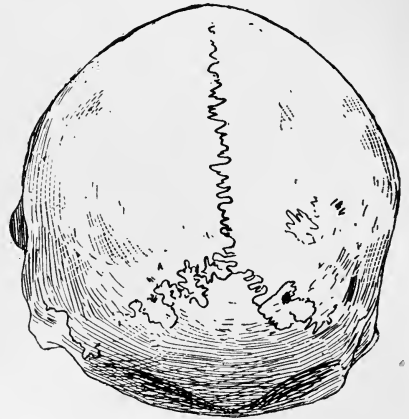


Fig. 118. No. 49.

*Cranioscopy.**Craniometry.*

		Millimetres.
Very heavy.	1	183
Age, 50.....	2	145
Sex, male.....	3	142
Sutures, simple	4	98
Pterion, H.....	5	111
Inion, 1.....	6	112
Artificially lengthened occipital foramen, E..	7	9
Lateral parietes, prominent.....	8	120
Glabella, medium.....	9	119
Superciliary ridges, prominent.....	10	73
Frontal eminences, indistinct.....	11	47
Forehead, straight	12	298
Probola, slightly protuberant	13	234
Sub-iniae curve, does not extend below condyles.	14	281
Mastoid process, thick, rough, pointed.....	15	515
Hollow at root of nose, shallow.....	16	85
Inferior border nares, broad shallow grooves..	17	146
Wormian bones, 4 present, one large in lamb-	18	56
doid suture to right of lambda, one at	19	26
junction of lambdoid and mastoid sutures,	20	79.2
and two small ones in lambdoid suture of	21	67.5
left side.	22	88.2
	23	77.5



Fig. 119. No. 51.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 40.....	1	192.
Sex, male.....	2	136.
Sutures, frontal and parietal serrations simple,	3	142.
in lambdoid they are more complicated..	4	99.
Pterion, H.....	5	111
Inion, O.....	6	110.
Artificially lengthened occipital foramen, E....	7	10.
Lateral parietes, flat.....	8	120.
Glabella, small.....	9	137
Superciliary ridges, medium.....	10	70
Frontal eminences, indistinct.....	11	46
Forehead, straight.....	12	298
Median line, culminates 3.75, centimetres behind	13	240
bregma.....	14	285
Probola, prominent, rounded.....	15	525
Sub-iniac curve, on level with condyles.....	16	85
Mastoid process, short, thick, rough.....	17	138
Hollow at root of nose, shallow.....	18	58.5
Inferior border nares, widely curved.....	19	27.0
Wormian bones, 3 present, one in sagittal suture	20	70.8
and one at centre of lambdoid suture....	21	72.7
	22	89.1
	23	73.9

See page 60 for Key to Measurements.

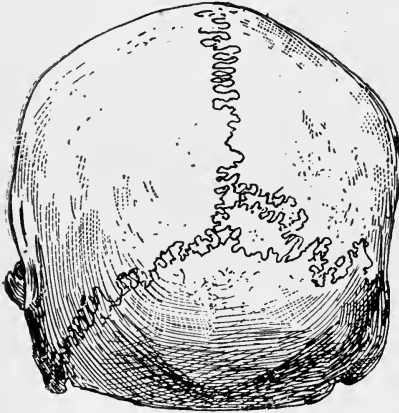


Fig. 120. No. 54.

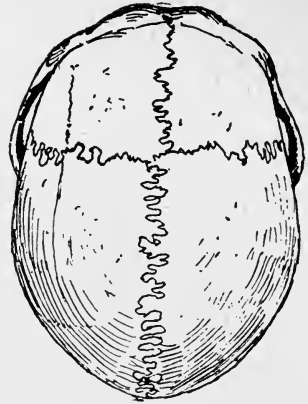


Fig. 121. No. 54.

*Cranioscopy.**Craniometry.*

		Millimetres.
Age, 25.....	1	197
Sex, male.....	2	138
Sutures, frontal suture present, serrations of all	3	132
the sutures complicated, the posterior	4	98
extremity of the frontal suture joins the	5	111
coronal to the right of the junction of the	6	112
sagittal.....	7	11
Pterion, H.....	8	115
Inion, 2.....	9	139
Lateral parietes, moderately full.....	10	73
Artificially lengthened occipital foramen, O..	11	47
Glabella, medium.....	12	298
Superciliary ridges, prominent.....	13	240
Frontal eminences, indistinct.....	14	295
Forehead, straight.....	15	535
Probola, prominent, globular.....	16	76
Sub-iniac curve, extends below condyles.....	17	140
Mastoid process, short, thick.....	18	56
Hollow at root of nose, very shallow.....	19	26
Inferior border nares, grooves shallow.....	20	70
Root of nose, very wide.....	21	70.8
Wormian bones, an os epactal and one also	22	88.3
about middle of lambdoid suture on left side.	23	67.0

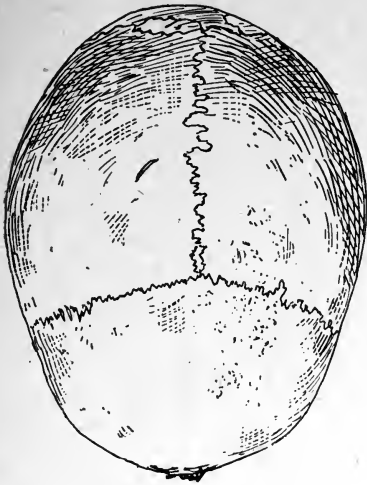


Fig. 122. No. 64.

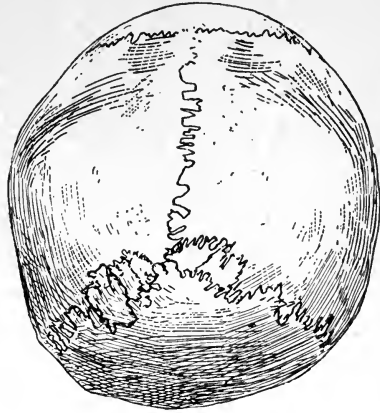


Fig. 123. No. 64.

*Cranioscopy.**Craniometry.*

		Millimetras.
Both zygomatic processes wanting.	1	187
Age, 25.....	2	145
Sex, female.....	3	128
Sutures, serrations small and intricate.....	4	98
Pterion, H.....	5	118
Inion, 2.....	6	120
Artificially lengthened occipital foramen, I....	7	9
Lateral parietes, protuberant.....	8	117
Glabella, small.....	9	113
Superciliary ridges, absent.....	10	89
Frontal eminences, fairly distinct.....	11	29
Forehead, straight.....	12	294
Probola, prominent, globular.....	13	240
Sub-iniac curve, on level with condyles.....	14	285
Hollow at root of nose, absent, root of nose wide	15	525
and flat.....	16	82 (app.)
Wormian bones, 9 present altogether, 5 in upper	17	
part of lambdoid sutures, 3 to right of	18	52
lambda and 2 to left, also a small one in	19	30
angle between squamous and mastoid	20	77.5
sutures, 2 more in lower end of right limb	21	67.5
of lambdoid suture and a ninth in occipito-	22	83.0
mastoid suture; largest in left lambdoid 27	23	68.4
millimetres long.		



Fig. 124. No. 67.

*Cranioscopy.**Craniometry.*

		Millimetres.
Face entirely gone.	1	184
Age, 45.....	2	142
Sex, female	3	134
Sutures, serrations small and somewhat intricate.	4	96
Pterion, H.....	5	113
Inion, 2.....	6	114
Artificially lengthened occipital foramen.....	7	15
Lateral parietes, protuberant.....	8	116
Glabella, small.....	9	114
Superciliary ridges, small.....	10	71
Frontal eminences, well marked, united.....	11	48
Forehead, straight.....	12	299
Probola, small, but very globular in form....	13	252
Sub-iniac curve, extends below condyles.....	14	270
Mastoid process, slender, short	15	522
Wormian bones, 2 on each side of lambda in	16	
lambdoid suture, one on each side being	17	
large and close to parietal; besides these	18	
there are several smaller ones.	19	
	20	77.1
	21	67.6
	22	84.9
	23	72.8

See page 60 for Key to Measurements.

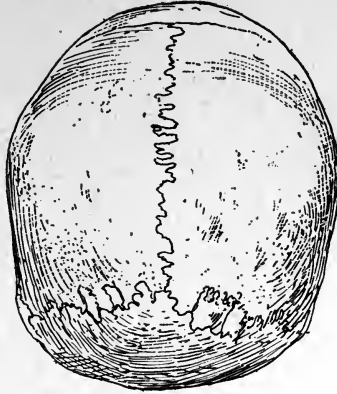


Fig. 125. No. 80.

*Cranioscopy.**Craniometry.*

		Millimetres.
One half (lateral) of face gone.	1	182
Age, 25	2	134
Sex, female	3	135
Sutures, extremely simple	4	93
Pterion, H.	5	108
Inion, 3	6	105
Artificially lengthened occipital foramen E....	7	11
Lateral parietes, slightly curved and protuberant	8	112
	9	126
Glabella, small	10	67
Superciliary ridges, small	11	39
Frontal eminences, well-marked	12	290
Forehead, straight	13	232
Probola, globular	14	270
Sub-iniac curve, extends below condyles	15	502
Mastoid process, small, slender	16	
Hollow at root of nose, absent	17	
Wormian bones, four present, in lambdoid suture, two to left and two to right of lambda. The two to the right are large and united by a suture, those to left are smaller and separate from one another....	18	
	19	
	20	73.
	21	69.4
	22	86.1
	23	74.1

See page 60 for Key to Measurements.

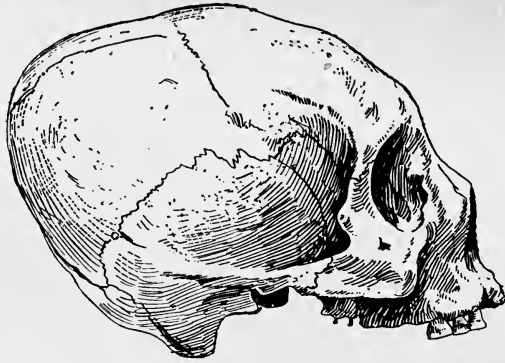


Fig. 126. A. (Brit. Columbia.)

*Cranioscopy.**Craniometry.*

		Millimetres.
Artificially deformed.	1	161
Age, 50	2	150
Sex, female	3	114.5
Sutures, coronal and sagittal almost obliterated, lambdoid, simple	4	92
	5	109
Pterion H	6	110
Inion, 1.	7	15
Lateral parietes, very protuberant	8	104
Artificially lengthened occipital foramen, O.	9	110
Glabella, very slight	10	60
Superciliary ridges, very slight	11	39
Frontal eminences, right small, left almost indistinguishable	12	288
	13	230
Forehead, markedly retreating	14	265
Median line, depression between frontal eminences, then an elevation about two centim. wide, and extending three or four centim. laterally immediately in front of bregma, behind this another depression. Between parietal eminences is a most marked depression extending from opposite parietal eminences to lambda	15	495
	16	87
	17	137
	18	56
	19	25
	20	93.1
	21	61.3
	22	84.4
Mastoid process, small	23	71.1
Hollow at root of nose, absent		
Inferior border nares, curves flattened		
Parietal region, very wide on top and flattened, behind, the parietal eminences are separated by a depression at the bottom of which is the sagittal suture, giving the posterior part of the skull a natiform appearance. The left side projects farther backward than the right and is much more prominent laterally		



Fig. 127. B. (Brit. Columbia.)

*Cranioscopy.**Craniometry.*

		Millimetre.
Artificially deformed.	1	170
Age, 60	2	156
Sex, male	3	123
Sutures, almost obliterated	4	103
Pterion, H	5	120
Artificially lengthened, occipital foramen I....	6	118
Lateral parietes, bulging, left more prominent	7	11
than right.....	8	130
Glabella, medium.....	9	112
Superciliary ridges, medium	10	69
Frontal eminences, absent	11	46
Forehead, retreating	12	313
Curve of vault, culminates at bregma, then	13	228
flattened as far as a point situated be-	14	282
tween the parietal eminences, whence it	15	510
descends almost perpendicularly to inion..	16	87
Inion, 3 forms a rounded prominence two inches	17	145
in diameter	18	51
Probola, flattened.....	19	27.5
Sub-iniac curve, slight	20	91.7
Mastoid process, short, rounded, thick	21	66.0
Hollow at root of nose, shallow.....	22	85.8
Inferior border nares, heart-shaped	23	72.3
Root of nose, wide and flat.....		
Parietal region, very wide behind. When		
viewed from above is triangular in shape		
with line between parietal eminences as		
a base. Right parietal bone more pro-		
minent posteriorly than left		

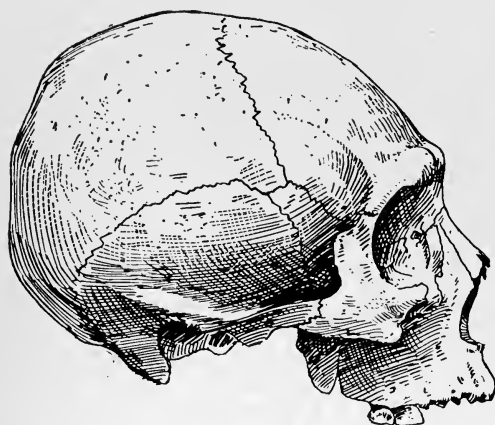


Fig. 128. C. (Brit. Columbia.)



Fig. 129. C. (Brit. Columbia.)

*Cranioscopy.**Craniometry.*

		Millimetre.
Age, 30.....	1	170
Sex, male.....	2	159
Sutures, lambdoid takes an irregular course ..	3	126
Pterion, H, bridge very narrow.....	4	100
Artificially lengthened occipital foramen, O....	5	109
Lateral parietes, very full.....	6	117
Glabella, very prominent.....	7	15
Superciliary ridges, medium.....	8	105
Forehead, retreating.....	9	110
Frontal eminences, absent.....	10	60
Inion, 1.....	11	52
Probola, flat.....	12	320
Sub-iniac curve, extends below condyles.....	13	232
Mastoid process, small pointed.....	14	286
Wormian bones, five present. A small one at	15	518
posterior termination of sagittal suture.	16	98
One large and two small in lambdoid suture	17	146
on right side, and a small one just above	18	56
mastoid region in left lambdoid.....	19	25
Hollow at root of nose, shallow.....	20	90.3
Inferior border nares, curves run sharply up-	21	62.2
ward and outward.....	22	91.7
	23	74.1

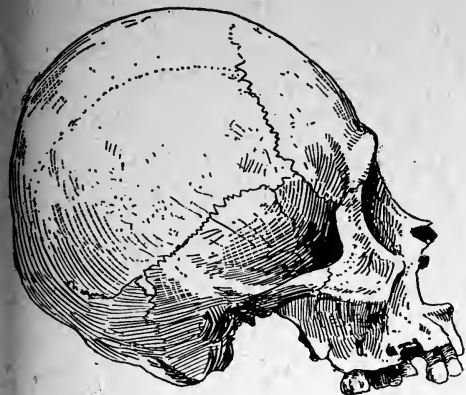


Fig 130. D. (Mound, Arkansas.)



Fig. 131. D. (Mound, Arkansas.)

Cranioscopy.

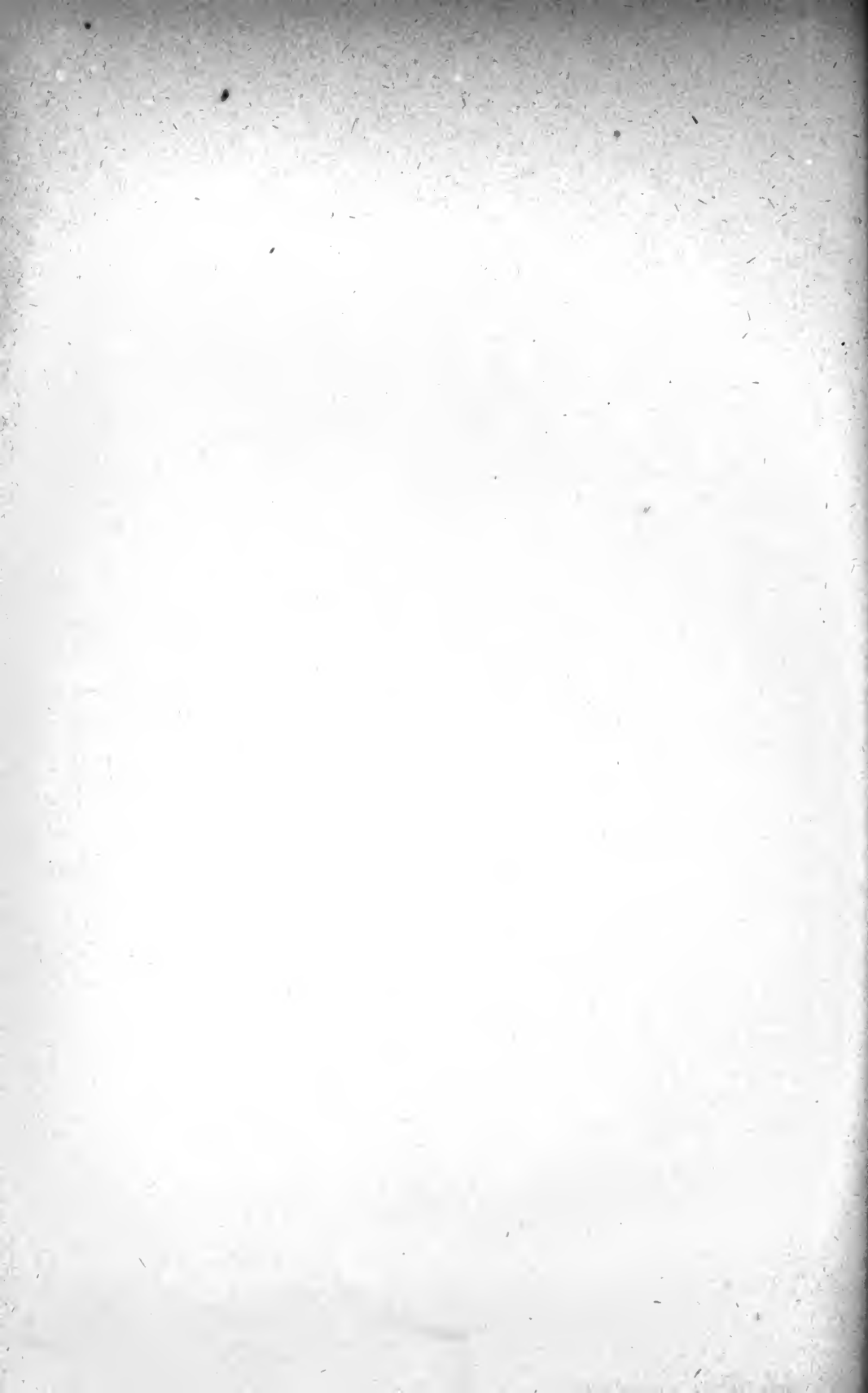
Lower part of occiput broken.	1
Age, 40	2
Sex, female	3
Sutures, simple, sagittal depressed posteriorly	4
Pterion, H	5
Artificially lengthened occipital foramen pos-	6
terior border of foramen broken	7
Lateral parietes, moderately prominent	8
Glabella, small	9
Superciliary ridges, small	10
Forehead, receding	11
Frontal eminences, very small	12
Inion, O	13
Probola, flat	14
Sub-iniac curve, flat	15
Mastoid process, small	16
Hollow at root of nose, shallow	17
Inferior border nares, curves wide and shallow	18

Craniometry.

Millimetre.

1	150
2	144
3	143
4	92
5	123
6	109.5
7	13
8	94
9	120
10	62
11	
12	322
13	220
14	250
15	470
16	96 (app.)
17	133
18	55
19	27
20	96.
21	63.8
22	74.7
23	95.3

See page 60 for Key to Measurements.



Ontario Provincial Museum, Toronto

archaeological
~~FIFTH~~ ANNUAL REPORT
ie SIXTH

OF THE

CANADIAN INSTITUTE,

SESSION 1892-3,

BEING

AN APPENDIX

TO THE

REPORT OF THE MINISTER OF EDUCATION,

ONTARIO.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.



TORONTO:

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1893.



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ARCHÆOLOGICAL REPORT.

BY DAVID BOYLE.

To the President and Members of the Canadian Institute:

GENTLEMEN,—As I have been employed during the past year on work that prevented as much time as I could wish being devoted to the archæological field, and as the council has consented to exhibit a typical selection from our cabinets at the World's Columbian Exposition to be held in Chicago during the present year, the occasion seems opportune to review in a very general way what has been accomplished since the Canadian Institute undertook the formation of an Archæological Museum.

It is true that almost from the establishment of the society by Royal Charter in 1852, one of the most cherished objects of the leading members was to collect information regarding places throughout the Province that were in any way connected with the Indians, and to bring together, for preservation, specimens of aboriginal tools, weapons, utensils and ornaments.

This purpose was no doubt mainly influenced by a very general movement among the most advanced nations in Europe along archæo-anthropological lines. In France, Germany, Switzerland, Denmark and our own Mother Country, attention had been for some time directed to the study of early man, in so far as such study might be prosecuted by an examination of his relics, and by comparing those of one country with those of another.

Only mention need be made of Dr. Schmerling's discoveries in the Belgian caves in 1833; of the pre-historic human remains found in the Dusseldorf cave; of the Danish Kitchen-middens and the Swiss Lake-dwellings; of the important discoveries made by M. Boucher de Perthes at Abbeville, and of the numerous evidences collected relative to early man in the valleys of the Thames, the Seine, the Somme, the Rhine, and in many other localities in widely separated portions of Europe.

In view of this great intellectual movement it was inevitable that its influence should reach America, and we accordingly find that in 1854 the council of the Canadian Institute issued a circular asking for such particulars as might be in possession of non-members with regard to the existence of village sites, burial places, etc., but there is no reason to suppose that the results were very encouraging. The nucleus of an archæological collection was formed, but as no case-room was provided (the specimens being simply placed on open shelves) the relics in possession of the Institute in 1886 were neither numerous nor valuable. In that year a small private collection was presented to us, and cases were supplied for future accessions.

With the consent of the council, your curator decided to specialise his efforts archæologically, on the ground that, with the advance of settlement, traces of early occupation would speedily disappear, and that, in any event, it was high time to preserve for the examination and study of our own people such evidences of aboriginal life as too many persons seemed anxious to deport to the museums of foreign countries.

As soon as the success of the project appeared to be assured, application was made to the Provincial Legislature for assistance on the exceedingly valid plea that while the work would be carried on by the Canadian Institute, it would be, in character and scope national, not local.

On this understanding, a small sum was placed in the estimates for archaeological research, and a like amount has since been voted annually. Without such aid it would be wholly impossible to prosecute the work at all satisfactorily, and it is especially gratifying to be able to state that not only have our efforts in all directions been so eminently successful, but we have been rewarded with high praise from all whose opinions are worth anything on this subject.

Our annual reports, of which the present is the sixth issue, have done more than a little towards educating public taste in the study and preservation of what relates to pre-historic associations in Ontario and elsewhere, and the demand for copies from the Institute has increased to such an extent that for the last three years the supply has been insufficient.

Members of the Legislature, too, agree in stating that they have applications for these reports far in excess of their ability to satisfy.

The publications in question are simply records of what has been done here and there, and of accessions to the Museum, but they have awakened so much interest throughout the province, that there are now invitations for your curator to visit as many places as would occupy the whole of two or more seasons.

It is much to be regretted that this kind of work cannot be systematically undertaken. Sometimes well-meaning residents make the attempt, but too often observations of an important character are wholly overlooked—more frequently nothing is done, and the plough eventually obliterates all traces of what might have proved an instructive spot, or a place of “treasure trove.”

With the increase of material, every year adds to the difficulty of accommodating the collection. The large room occupying the whole uppermost story of the Institute's building has long been overcrowded, and a considerable number of specimens have been placed in the Library. Extension can proceed but little further under the present arrangement, and increased accommodation must, before long, be found here or elsewhere.

As a mere matter of business the collection is worth many times what it cost, whilst from an educational and scientific point, its value is inestimable, and it is deeply to be regretted that no better place for its accommodation can be found in Toronto.

During the year we have become possessed of three small, but in some respects, valuable private collections. One of these was the property of Mr. E. C. Waters, of Brantford; a second belonged to Chief A. G. Smith, of the same city, while the third was the property of Mr. F. W. Waugh, also of Brantford. The first is especially rich in implements of bone and horn, and includes several unique specimens in stone and clay. Mr. Waugh's is miscellaneous, but comprises some rare specimens. That of Chief Smith is remarkable mainly for stone pipes, and for a very fine assortment of post-European silver ornaments, including brooches, pins, bracelets and hat-bands, all of the kind formerly given to the Indians as “presents.”

Since the issue of the last report, too, we have received from Dr. T. W. Bee-man, of Perth, a large number of excellent specimens found by himself and others in the County of Lanark.

Mr. T. W. Irwin, of Peterborough, has presented us with a large and beautiful clay vessel found in a rock-cleft on the divide between the waters flowing into the Ottawa, and those that reach the Bay of Quinte, and valuable specimens of various kinds have been presented by Messrs. Archibald Riddell, of Arnprior; W. McDonnell, J.P., of Lindsay; David Allan, of Rylston, and others, to all of whom we beg to express our gratitude.

We have also to thank Mr. E. F. White, of Clarksburg, for depositing with us a very fine specimen of pottery in perfect condition. It was found in the Blue Hills of Nottawasaga.

Special thanks are also due to Mr. W. G. Wright, of Collingwood, for his donation of fifty-six specimens, some of which are very valuable. A few of them are figured in the following pages.

Yours respectfully,
DAVID BOYLE.

Toronto, March 1st, 1893.

NOTES.

It appears to be tolerably certain that when the French took possession of Canada, both banks of the St. Lawrence west of Montreal, part of the territory lying south of Lake Ontario, and probably most of that lake's northern shore were regarded by the Iroquois as their country. The territory of the Neuters, or Attiwandarons, extended along the northern shores of Lake Erie and for some distance inland, occupying the whole of the Niagara peninsula and stretching eastwards on the south of Lake Ontario until it marched with the country of the Iroquois. North of the Neuters, and occupying most of the area bounded on the west and north by Lake Huron and the Georgian Bay, were the Hurons, akin to the Iroquois, but long separated from them.

The areas referred to comprised the greater portion of old Upper Canada, or what is the southern part of the Province of Ontario as now constituted.

Natives of Algonquin stock seem to have been confined to the territory lying still further to the north, on both sides of the Ottawa, and westwards, even beyond Lake Superior. After the extermination of the Hurons and the Neuters by the Iroquois, and when the conquerors had themselves ceased to be a terror, the Ojibwas or Chippaways gradually took possession of the country formerly held by the tribes mentioned, and it was with the Ojibwas the British authorities had to deal after Canada was ceded by the French.

Before proceeding to the point to which this leads, it may prove interesting to say a word or two regarding the various land surrenders made by the natives to the British Government, for it must be borne in mind that the territorial rights of the Indians were always admitted by the home authorities. These rights were fully recognised by the proclamation of George III., 7th October, 1763, and it is somewhat curious to remark that the first purchase made from the Indians of this country was "for ten shillings, and divers good and valuable considerations given on 23rd September, 1787," for what now forms the southern portion of the County of York, embracing the townships of Etobicoke, York and Scarboro'; although the surrender was not completed by the Mississagas until the 1st of August, 1805.

In the following year a strip of similar width extending from the western limit of the former tract to the mouth of Burlington Bay, and containing 85,000 acres, was surrendered by the Mississagas for the sum of £1,000 sterling. All the other land purchases were made from the Chippaways, of whom the Mississagas and Saugeens were tribes.

But the knowledge that within the scope of history there has been a double aboriginal occupation of the Province fails in any degree to account for much that characterises certain classes of relics which appear to be of a more archaic type than others. It is undoubted that among the specimens found in almost

any given locality, there is a larger or smaller proportion of chipped objects somewhat rude in form and finish, corresponding in the main with those that are known in Europe as palæoliths. Some of the pipes, too, but more rarely, are of forms usually considered ancient when compared with others, and there seems reason to doubt whether most or many of the so-called "ceremonial weapons" were used for any purpose by natives contemporary with European settlers.

The chipped objects referred to include, of course, all those forms known as arrow-heads, spears, lances and knives, and which are usually characterised by a lack of that symmetry, gracefulness of outline, and proportion of parts so much admired in what we regard as "choice specimens."

Hitherto, a very general belief has been entertained that the ruder forms were merely blocked out preparatory to higher finish, or, that they were make-shifts, or, that they were the work of non-adepts, or, that they were "rejects," and while there is still good ground for holding such views in a very large number of instances, there is, at the same time, a tendency on the part of not a few students to wonder whether some of the coarsely-flaked, neckless, and much-weathered specimens are not actually the counterparts of what are known elsewhere as palæoliths, pointing to a time and condition of existence on the part of a people long prior to the fifteenth century, near the close of which European intercourse began with the natives of this continent.

In several widely-separated parts of the United States, what may be called the palæolithic proof appears to be conclusive, and while it would seem reasonable to believe that similar evidences should exist in Ontario, none has been forthcoming so far. Here we have no indisputable proof that even a flake of flint has been discovered in a bed of gravel or of boulder clay, otherwise than by comparatively recent intrusion. Workmanship alone affords grounds for the conjecture that some chipped stone implements and weapons antedate others, and, as has already been mentioned, it is quite possible to account for the variations on totally different grounds.

With regard to pipes, however, similar arguments will not so readily apply, for it is tolerably safe to assert that the production of these, and the practice of smoking, belong to a period long subsequent to that of pre-glacial or even co-glacial man, and to a condition of society far in advance of the palæolithic. When man became a smoker he ceased to be purely and simply a savage, for whether we connect the practice of smoking with early man's ideas of indulgence, or of superstition, it points, at all events, to a stage in his advancement when food quest had ceased to be his all-absorbing occupation, and when sentiment had begun to exercise its sway in ministering to what he was pleased to regard as his comfort, or for the purpose of appeasing the many spirits with which he peopled his surroundings.

The making of pipes also demanded a higher, though, perhaps, not more difficult degree of mechanical skill in the manipulation of clay or of stone than was involved in the act of chipping to produce a cutting edge. But, although for these reasons, it is quite plain that pipes came in long subsequent to the time when the rudest forms of stone implements were in use, it is, nevertheless, not very hard to distinguish the evolution of the former from what we consider their most archaic to their most recent types, although individual specimens are occasionally somewhat perplexing.

Still, there is another difficulty. Just as we find the coarsest flints mingled with those that are most beautifully made, now and then we discover a pipe of antique shape buried with material that we have reason to believe

comparatively recent. Were the old pipes heirlooms—family fetishes perhaps,—were they only “finds” to some succeeding Indian, as they are to ourselves, or, were some of those we look upon as ancient pipes after all simply reproductions of old patterns? Who shall say? If we may form our conclusions from the writings of travelers, and from what we know to be yet the practice among outlying tribes, the ceremonial pipe was distinguished from others both in point of size and grandeur, but even this is a little hazy, and we are to a great extent in ignorance of the whole part played by the pipe among pre-historic Indians.

It has long been found convenient by writers and students to refer all Indian “goods and chattels” of unknown use to the catalogue of “ceremonial” objects. The list has become a very large one, and is likely to increase, although there can be little doubt that if our knowledge were as extensive as our possessions the number of ceremonial articles would be very materially reduced. A considerable proportion of these relics are made of Huronian slate, which is often found so beautifully veined, or grained, as to be highly suggestive of petrified wood to a common observer. The objects made of this material are among the most beautiful specimens of primitive handicraft found in North America, and easily rank first among the Indian relics of Ontario. To whatever use assigned, they must always have possessed a high value, and one would naturally suppose that they must have been conspicuous objects on the person, or connected with the persons of their owners. If worn as charms or amulets, they would have been very noticeable—if employed in dances, feasts or pow-wows they could scarcely have failed to attract the attention of onlookers, and yet amid all that has appeared respecting “The Manners and Customs of the North American Indians,” we search in vain for information with regard to these so-called “ceremonial” objects of stone. We find tolerably minute descriptions of head-dresses, masks, mantles, robes, leggins, moccasins, wampum belts, necklaces of various kinds, bracelets, ornaments of feathers and porcupine quills, dyes and pigments, but not a word about “ceremonial” stones—some of which were conventionalised forms of quadrupeds and birds, some elegantly formed bars (in all these cases having a hole bored diagonally through the base at each end), some like double-edged axes, some resembling pairs of horns, some like butterflies, and others of various fanciful shapes, but always with a hole apparently for the reception of a handle, or perhaps for suspension. Regarding these not a syllable has been written to satisfy our curiosity.

It is particularly noteworthy that specimens of the kind in question are nearly always found absolutely perfect, free from marks of abrasion or wear, and not even a sign of friction about the holes.

Some students wonder very pertinently whether these objects had not actually gone out of use previous to the appearance of the white man, and here again we are confronted with the possibility of another occupation by a people previous to that of the tribes found in possession by the French.

With regard to surmises of this kind, there is presumably no desire to point to dispersed or supplanted races of totally different origin, as is sometimes done when mention is made of the Mound-Builders, but rather to such speedy and overwhelming extirpations of tribe by tribe as have fallen within historic scope.

The art of flint-flaking is still practiced by some of the North-west Indians, but so far as is known nothing corresponding to ceremonial stones has been produced by any aboriginal people during the historic period.

Not taking into account the stone tubes and the varieties known as amulets and gorgets, all the so-called "ceremonial" objects, as has already been remarked, are provided with a hole as if for the insertion of a thin shaft or handle, the aperture seldom exceeding three-eighths of an inch in diameter, and if this was the purpose of the hole it would seem all the more remarkable that our Indians did not thus attach handles to their tomahawks and hammers, as was the custom of Old World primitive man. Until very recently I had not seen a single stone hammer or celt belonging to this Province with a hole large enough to warrant the belief that it had been made to receive a handle for working purposes, but an excellent specimen of such a tool has been presented to us by Dr. T. W. Beeman, of Perth, who procured it from Dr. Clark, of Tamworth. It was found at Beaver Lake, in the County of Addington. The hole is about nine-sixteenths of an inch in diameter, and both ends of the tool are considerably battered. It is four inches in length, and an inch and three-eighths in diameter at the eye, which, measuring from the centre, is only an inch and a half from one end, and, of course, two and a half from the other. The extremity of the shorter end is three-fourths of an inch in diameter, and rounded, while the opposite end is chisel or axe-edged.

Attention is called to the valuable paper by J. H. Coyne, Esq., M.A., of St. Thomas, on the "Southwold Earthworks," in the county of Elgin.

Appended is a list of the typical specimens that have been selected for exhibition at the Columbian Exposition, Chicago. To supply accommodation for these the Ontario Government has kindly furnished twelve large and handsome cases of cherry, having an area of one hundred and fifty square feet.

It is anticipated that as a result of this exhibition the Museum will receive many valuable accessions, illustrative not of early man in Ontario, or even in Canada, alone, but in many other parts of the world.

A large edition of this report will be issued for the catalogue it contains of the exhibit, and copies will be freely but judiciously distributed in Chicago.

Canadians and others into whose hands this report may come are hereby invited to correspond with the curator regarding the subject of archæology, and it is needless to say that contributions will be thankfully received from all well authenticated sources.

In so far as our spare material will admit, exchanges will be effected.

DAVID BOYLE,

Curator.

CATALOGUE OF SPECIMENS

ON EXHIBITION AT THE COLUMBIAN EXPOSITION, CHICAGO,
MAY 1ST TO OCTOBER 31ST, 1893.

FROM

THE PROVINCIAL ARCHÆOLOGICAL MUSEUM

OF THE

CANADIAN INSTITUTE, TORONTO,

SPECIMENS SHOWING METHODS OF WORKING.

1. Small block of brown stone, marked off and partly sawn for beads.
12. Portion of a stone marked off for a pipe. Nottawasaga township, Simcoe county.
14. Stone showing remains of holes bored in line to separate it from another piece. Nottawasaga township, Simcoe county.
17. Unfinished tool—semi-circular blade. Middlesex county.
18. Huronian slate pebble almost divided into five lengths by deeply-cut notches. McGillivray township, Middlesex county.
19. Stone showing method of cutting by sawing. Nottawasaga township.
21. Gorget or tablet partly bored. Western Ontario.
28. Large pebble pecked on one side to make it symmetrical.
34. Unfinished object in Huronian slate shows borings. McGillivray township, Middlesex county.
49. Limestone (deeply-channelled). Nottawasaga township, Simcoe county.
50. Large and roughly blocked out axe, Lanark county.
69. (?) Huronian slate. Nottawasaga, Simcoe county.
90. Large pebble dressed flat on one end. Lanark county.
97. Large "platform" steatite pipe, blocked out, ready for boring. Camden township, Addington county.
150. (?) Norfolk county.

HAMMERS.

15. Discoidal; hollowed on two sides. Western Ontario.
16. Large flat limestone pebble grooved. Biddulph township.

HAMMERS (GROOVED).

1. Kingsville, Essex county.
2. Sebastopol township, Renfrew county.

AXES (MOSTLY PLAIN).

1. Victoria county (13½ inches long).
2. Victoria county (10½ inches long, 2 inches thick).
3. West Williams, Middlesex county (with longitudinal rib).

4. 5, 6, 7. Small specimens, Middlesex county.
8. Beaver lake, Addington county (with handle hole $\frac{1}{8}$ inch diameter).
9. Kent county (both ends sharpened).
79. Huronian slate, Norfolk county.
263. Slender tapering form, Norfolk county.
475. Strongly ridged on one side, Norfolk county.
509. Having ornamental pattern in relief on one side. Norfolk county.

915. Small tool, half round transversely, pointed at one end.

AXES (GROOVED).

10. East Williams township.
11. Leamington, Essex county. Grooved deeply, grooves surrounded with flanges.
12. Weston, York county.
13. Norfolk county.
25. Grooved vertically and horizontally. Lanark county.

GOUGES.

8. Near Lindsay, Victoria county.
12. Pilkington township, Wellington county.
18. Victoria county.
19. Pilkington township, Wellington county.
29. McGillivray township (transversely grooved for handle attachment).
36. South Sherbrooke township, Lanark county.
38. Humberstone township, Welland county.
39. Sheffield township, Addington county.
40. Penetanguishene, Simcoe county (gouge and chisel at opposite ends).
41. Haldimand county.

FLAKED IMPLEMENTS.

- 3, 4, 5, 6, 7, 8. Tidd's Island, R. St. Lawrence. (From 6 to $8\frac{1}{2}$ inches long; 5 and 7 are of quartzite.)
15. Pickering township, Ontario county. (This is one of the largest chipped implements found in Ontario, it is $11\frac{1}{2}$ inches long).
- 16, 17, 18. Wolfe Island, River St. Lawrence.
20. Biddulph township, Middlesex county.
23. Plympton township, Lambton county.
24. McGillivray township, Middlesex county.
- 28-39. Eleven specimens found together at the edge of a swamp in West Williams township.
42. Wolfe Island, River St. Lawrence.
- 61-62. Wolfe Island, River St. Lawrence. (Two large roughly-flaked leaf-shaped tools).
- 70-110. Flints, Brant county.
- 141-142. Curved flints, Norfolk county.
269. Large scraper, Norfolk county.

SLATE SPEARS.

4. Wolfe Island, R. St. Lawrence.
5. Western Ontario (notched shank).
10. Nottawasaga township, Simcoe county.
11. Withrow Ave., Toronto.
14. Nottawasaga township.
17. Ryleston, Northumberland county.

TABLETS, ETC. (ONE HOLE).

5. Jarvis, Norfolk county.
- 8-9. Tidd's Island, R. St. Lawrence.
14. Galt, Waterloo county.
24. McGillivray township, Middlesex county.
25. Biddulph, Middlesex county.
30. McGillivray township, Middlesex county.
33. McGillivray township, Middlesex county.
34. Bosanquet township, Lambton county.
36. West Williams township, Middlesex county.
47. McGillivray township, Middlesex county.
48. Biddulph township, Middlesex county.
51. Humberstone township, Welland county.
52. No locality known.
57. Western Ontario.
58. Wolfe Island, R. St. Lawrence (chisel-edged).
59. Wolfe Island, R. St. Lawrence.
61. Wolfe Island, R. St. Lawrence.

TABLETS (TWO OR MORE HOLES).

1. St. Thomas, Elgin county.
3. Western Ontario.
4. Near Sarnia, Lambton county.
5. Galt, Waterloo county.
6. Orillia, Simcoe county.
13. Norwich, Oxford county.
14. Exeter, Huron county.
15. London township, Middlesex county.
16. Plympton township, Lambton county.
28. West Williams township, Middlesex county.
29. Thedford, Lambton county.
32. West Williams township, Middlesex county.
33. West Williams township, Middlesex county.
34. McGillivray township, Middlesex county.
38. West Williams township, Middlesex county.
41. Biddulph township, Middlesex county.
42. Middlesex county.
43. McGillivray township, Middlesex county.
47. West Williams township, Middlesex county.
48. West Williams township, Middlesex county.
49. McGillivray township, Middlesex county.
53. Lindsay, Victoria county.

54. St. Thomas, Elgin county.
55. McGillivray (Huronite) Middlesex county.
62. Wolfe Island, R. St. Lawrence.
69. Elora, Wellington county.
70. Ellice township, Perth county.

ANIMAL FORMS IN SLATE AND OTHER STONE.

14. Wolf's or dog's head, Nottawasaga township, Simcoe county.
15. Finely-carved human head, Beverly township, Wentworth county.
16. Bird's head, Nottawasaga township, Simcoe county.
17. Beaver (?) Nottawasaga township, Simcoe county.
18. Bear (?) Nottawasaga township, Simcoe county.
19. Turtle (sandstone) Elgin county.
87. Dog-like head (marble) Nottawasaga township, Simcoe county.

MISCELLANEOUS (SLATE).

10. Small disc, perforated with one central and ten marginal holes.
19. Sub-conical ornament, $1\frac{3}{4}$ in. in diameter, Burford village, Brant county.
30. East Williams township, Middlesex county.
31. West Nissouri township, Middlesex county.
41. Newmarket, York county.
53. Slate knife (?) Western Ontario.
54. Cobourg, Northumberland county.
55. Large semi-circular knife, Madawaska river, Renfrew county.
- 56-57. Pendants (?) Tidd's Island, River St. Lawrence.
64. Small perforated tool, chisel-edged at one end and pointed at the other
Probably a pottery marker.
204. Paint cup (?) Norfolk county.

CEREMONIAL STONES (BIRD AMULETS).

1. Aurora, York county.
2. Middlesex county.
3. Thorndale, Middlesex county.
4. West Williams township, Middlesex county.
5. Locality not known.
6. Elgin county.
7. Brantford, Brant county.
8. Port Rowan, Norfolk county.
9. Biddulph township, Middlesex county.
10. London, Middlesex county.
11. McGillivray township, Middlesex county.
12. Stephen township, Huron county.
13. West Williams township, Middlesex county.
14. McGillivray township, Middlesex county.
16. McGillivray township, Middlesex county.
17. West Williams township, Middlesex county.
18. West Williams township, Middlesex county.

(BAR AMULETS, ETC.)

20. Bosanquet township, Lambton county.
21. Scotland village, Brant county.
23. West Williams, Middlesex county.
24. McGillivray township, Middlesex county.
25. Middlesex county (oval hole).
27. Port Rowan, Norfolk county.

(HORNED AND WINGED OBJECTS.)

26. Middlesex county.
28. McGillivray township, Middlesex county.
29. Spherical Huronian slate, bored. Hollowed in line with hole on one side,
West Williams township.
- 29½. Huronian slate, bored, transversely and double pointed.
30. Wingham, Huron county.
31. Norfolk county.
32. Caradoc Township.
33. Plympton township, Lambton county.
34. Zone Township, Kent county.
35. Norfolk Lake shore.
36. Forest, Lambton county.
37. Wingham, Huron county.
38. Port Perry, Lake Scugog, Ontario county.
41. West Williams township, Middlesex county.
42. Blanshard Township, Middlesex county.
44. East Williams township, Middlesex county.
45. McGillivray, Middlesex county.
47. East Williams township, Middlesex county.
48. West Williams township, Middlesex county.
49. Biddulph township, Middlesex county.
51. Oval Huronian slate, bored, Middlesex county.
91. Oneida Township.

(TUBES.)

52. Middlesex county.
62. Forest.
63. Norfolk Lake Shore.
64. Norfolk Lake Shore.
66. Beverly township, Wentworth county.
67. Western Ontario.
68. Wolfe Island, River St. Lawrence.
69. Wolfe Island (8½ inches long).
72. McGillivray township, Middlesex county.
74. West Williams township, Middlesex county.
75. London township, Middlesex county.
85. Huron county.
87. East Williams township, Middlesex county.
90. Tuscarora township, Brant county.
92. Tuscarora township, Brant county.
93. Humberstone township, Welland county.
100. Brantford, Brant county (10 inches long).

DISCOIDAL STONES.

- 18. Middlesex county.
- 21-25. Eglinton, York county.

BONE AND HORN.

- 11. Part of human skull, rounded, and perforated with seven holes, Beverly township, Wentworth county.
- 12. Portion of human skull, rounded, Vaughan township, York county.
- 24. Spear or harpoon (one barb) Beverly township, Wentworth county.
- 25. Spear or harpoon (three barbs) Victoria county. One end of this specimen is sharpened to a chisel edge.
- 28. Barbed fish-hook, Lindsay, Victoria county.
- 54. Small human figure, full length, hole through neck.
- 55. Small human mask, Nottawasaga township, Simcoe county.
- 56. Spear (one barb) York township, York county.
- 57. Hollow leg-bone (deer's?); highly polished and ornamented with three rows of rings deeply cut. York township, York county.
- 59. Chisel or gouge, Nottawasaga, Simcoe county.
- 70. Prongs of deer horn, probably used for smoothing or rounding thongs.
- 71-85. Awls or needles of various shapes and sizes, York township, York county.
- 86. Needle or pin with small hole, York township.
- 87-88. Probably pins for fastening articles of dress, York township, York county.
- 89. Wing-bones, notched preparatory to being cut into lengths, York township.
- 90. Wing bone slightly worked, York township.
- 91-92. Small foot-bones, partly worked, York township.
- 93-94. Similar bones, rubbed down, York township.
- 95-97. Bear's teeth, perforated as if for necklace, York township.
- 98-100. Wolf's teeth, similarly perforated, York township.
- 101. Five small bone beads, York township.
- 102-104. Three strings of bone beads, York township.
- 105. Small bone spear or harpoon, three barbs on each side.
- 106. Large bone awl, Nottawasaga.
- 107. Large spear or harpoon (four barbs on each side) Nottawasaga.
- 108. Bear's teeth, notched Nottawasaga.
- 203. Human leg-bone, bored, Simcoe, Norfolk county.
- 204-206. Of unascertained use, Baptiste Lake, Hastings county.
- 207. Ojibwa game (like cup and ball) Brant county.

SHELL.

- 1. *Busycon perversa*, Nottawasaga, Simcoe county. (Large sea-shell, the material of which was used in making wampum).
- 3. Wampum, or beads from columellæ of large shells, Beverly township.
- 4. Wampum, or beads from columellæ of large shells, Beverly township.
- 5. Section of shell, partly cut for wampum, Beverly township, Wentworth county.
- 6. Portion of large sea-shell, partly cut in preparation for wampum, Beverly township, Wentworth county.
- 21. Ornament (pendant) Beverly township, Wentworth county.
- 23. Two triangular pendants or ear-drops, made from unio shells, Nottawasaga.
- 39-43. Circular gorgets, London, Ontario.
- 53. Single piece of wampum, half-rounded and half-bored.

STONE PIPES.

2. Nottawasaga township, Simcoe county.
3. Nottawasaga township, Simcoe county.
5. Albion township, Peel county, (boring of bowl and stem incomplete.)
14. Nottawasaga, Simcoe county.
15. Nottawasaga township, Simcoe county.
16. Kent county.
21. Nottawasaga township, Simcoe county.
22. Nottawasaga township, Simcoe county.
24. Near Milton, Halton county. Monkey-like form.
28. Nottawasaga township, Simcoe county.
31. Beverly township, Wentworth county.
37. Nottawasaga township, Simcoe county.
43. West Williams township, Middlesex county.
44. Wiarton, Grey county.
45. Nottawasaga township, Simcoe county.
50. Lake Moira, Hastings county.
56. Pittsburg township, Frontenac county.
58. Sault Ste. Marie (modern form).
59. London township, Middlesex county.
60. Grand Bend, Sable R., McGillivray township, Middlesex county.
100. Nelson township, Halton county.
101. Kentucky shore, opposite Lawrenceburg (Ind.)
102. Penetanguishene, Simcoe county.
104. Ryleston, Northumberland county.
105. Unfinished pipe, Tuscarora township, Brant county.
110. Unfinished gypsum pipe, St. Clair Flats, Lambton county.
111. White stone pipe, Baptiste Lake, Hastings county.
112. Nottawasaga township, Simcoe county.

CLAY PIPES.

2. Nottawasaga township, Simcoe county.
8. Nottawasaga township, Simcoe county.
19. Holland Landing, York county.
22. York township, York county.
35. Beverly township, Wentworth county.
47. Onentisati, Simcoe county.
49. Orillia, Simcoe county.
54. Nottawasaga township, Simcoe county.
80. Nottawasaga township, Simcoe county.
81. Nottawasaga township, Simcoe county.
82. Nottawasaga township, Simcoe county.
83. Nottawasaga township, Simcoe county.
85. Nottawasaga township, Simcoe county.
86. Nottawasaga township, Simcoe county.
89. Onentisati, Simcoe county.
90. Beverly township, Wentworth county.
91. Nottawasaga township.
96. Near Lake Simcoe (double faced).
110. Nottawasaga township, Simcoe county (wolf or dog-head).
114. Nottawasaga township, Simcoe county.

118. Nottawasaga township, Simcoe county (oddly flattened).
119. Nottawasaga township, Simcoe county (eagle's head).
120. Nottawasaga township, Simcoe county.
121. Nottawasaga township, Simcoe county (eye of human face made to form bowl).
122. Nottawasaga (fragment of pipe, human face with long ears).
241. Baptiste lake, Hastings county (square mouthed).

COPPER TOOLS AND WEAPONS.

1. Axe or chisel with socket, Manitoulin Island.
2. Axe—plain, Brantford.
4. Chisel, Beverly, Wentworth county.
6. Spear head, with tine, Brantford.
13. Bracelet, Rice Lake.
15. Spear head, London township.
16. Large spear, with socket, Burford township, Brant county.
18. Chisel or small axe, Noncon Island, Lake Scugog.
25. Spear with tine, Perth.
26. Knife (?) Baptiste Lake, Hastings county.
27. Spike or spear (12½ inches long) Kaministiquia River, at Fort William.
28. Axe or adze, Kaministiquia River, near Fort William.
29. Lake Moira, Hastings county.
- 27½. Spike or spear head, Port Rowan, Norfolk county.
28. Spike or chisel, London, Middlesex county.
29. Knife, St. Joseph's Island.
30. Curved cutting tool with undulated edge. Covered on one side with piece of beaver-skin—the remains of wrapping when placed in the grave, Midland City, Simcoe county.

POST-EUROPEAN.

- 1-61. Silver ornaments worn by the Indians. From graves in Brant county.
63. Silver hat-band, Brant county.
84. Pair of silver bracelets, Brant county.
85. Double-barred cross, Beausoleil Island, Georgian Bay.
91. Colored glass beads, Lake Medad, near Hamilton.
104. Blue glass beads, Beverly township.
105. Red glass beads, Beverly township.

METHODS OF WORKING.

Fig. 1 illustrates three of the methods employed in the manipulation of stone. A series of holes has been drilled along one side to detach the specimen from a larger portion, or to reduce it in size. Below these sawing has been resorted to, and other parts of the surface show marks of rubbing.

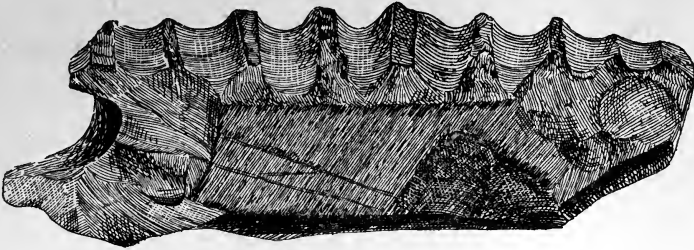


FIG. 1.

This excellent specimen forms part of a small but valuable collection presented to us by Mr. W. G. Wright, of Collingwood. Mr. Wright is an enthusiastic and intelligent student of Huron-Iroquois remains in the counties of Grey and Simcoe, and the Institute is deeply indebted to him for this and other gifts.

CLAY PIPES.



FIG. 2.

In the multiplicity of designs employed by the Indians in the manufacture of pipes, the human face occupies a prominent place. Fig. 2 is, on the whole, one of the neatest bits of clay work in the museum. It forms part of the admirable little collection presented by Mr. W. G. Wright, of Collingwood.

The pipe here figured is, in several respects, worthy of close examination. The clay is of fine quality, and light in color. Portions of the surface possess a fairly good glaze. The ears, both of which are broken, have been perforated.

It is almost needless to say that as this specimen is from near the shores of Nottawasaga Bay, it belonged to one of the Huron tribes, probably the Tobacco Nation.

Fig. 3 is of an unusual pattern. When perfect the end of the base, now fractured, was probably almost as long as the stem shown in the engraving. In general design it approaches to the platform or "monitor" type, a form seldom attempted in clay. Peculiar as this pipe is in many respects, it is the lower side of the base that attracts most attention, for here has been moulded a human face. The nose, mouth and one eye remain, and any lingering doubt is dispelled on

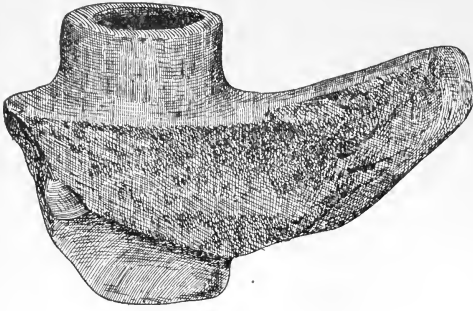


FIG. 3.



FIG. 4.

finding the nostrils distinctly marked. The imitation is a rude one, but nothing is more certain than that the pipe-maker intended to represent a face in this very unusual position. Fig. 4 illustrates the lower side of the base. This pipe is from Brant county, and is part of the collection procured from Chief A. G. Smith (De-ka-non-ra-neh), of the city of Brantford.

STONE PIPES.



FIG. 5.

The pipe figured here is of a pattern not uncommon among the Hurons. The ornamental portion was carved to face the smoker. The stem is broken off

close to the bowl. The material is a compact grey limestone, and portions of the bowl show traces of the working tools used in shaping it.

This pipe is also from the country of the Tobacco Nation, and was presented by Mr. W. G. Wright, of Collingwood.



FIG. 6.

The pipe represented by figure 6 is the only one in our collection in which the mouth of the face is made to serve as the stem-hole. The workmanship on this bowl is rude, unless we regard it as an unfinished specimen. It was found in the township of Nottawasaga by Mr. W. G. Wright, of Collingwood.

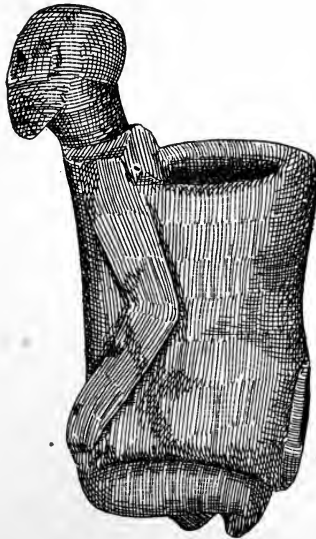


FIG. 7

The pipe of which Fig. 7 is a diagram is made of yellow soapstone. It appears to represent a man carrying a burden, which forms the bowl proper. The stem-hole enters from the front. This specimen shows signs of long use, as none of the outlines are at all sharp. The face markings are nearly all obliterated. Even when new it is not likely that Fig. 7 was a very fine piece of workman-

ship. It was found in the county of Brant, and in all probability belonged to the Attiwandarons or Neuters. It formed part of the collection of Chief Smith, Brantford.



FIG. 8.

Not many stone pipes are formed from Huronian, or veined slate, as is the specimen figured above, which was presented by Mr. David Allan, of Rylston, in the county of Northumberland. It is not easy to recognise the animal-form the old mechanic intended to represent. The stem-hole enters from behind, and the hole shown in front no doubt served the double purpose of binding the bowl to the stem when in use, and of enabling the owner to attach it to his person when carrying it about.



FIG. 9.

Fig. 9 represents a very plain form of pipe, the bowl and stem being almost in line. It is made of dark gray soapstone, and was presented by Dr. T. W. Beeman, of Perth, Lanark county. In the evolution of stem and bowl from

one piece, specimens of this kind may be regarded as indicating one of the early stages, and yet the form may have depended wholly on the size and shape of the raw material. Fig. 9 is well formed, though simple in outline, and almost without any attempt at decoration.



FIG. 10.

Another soapstone pipe from the same locality, and presented by Dr. T. W. Beeman, is shown in Fig. 10. It is much larger than Fig. 9, and though less graceful in outline, possesses some markings round the lip of the bowl intended to enhance its appearance. The mouthpiece shows signs of many smokings.

GORGETS.

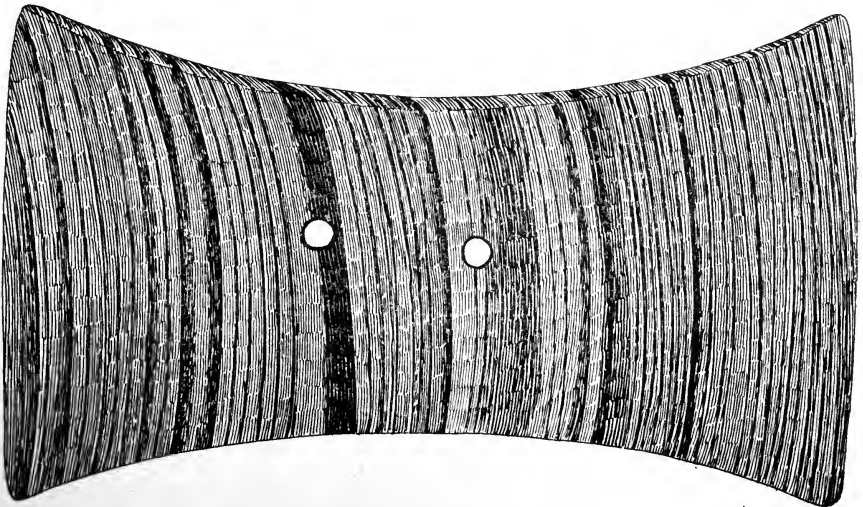


FIG. 11.

The gorget or tablet here figured is the most elegant and symmetrical in our collection, which comprises nearly two hundred of such objects. The material itself is an excellent specimen of the striped slate so much affected by the

Indians in producing this kind of article, whatever its purpose may have been. The piece, too, is remarkably thin—scarcely more than an eighth of an inch—and, in view of this, one is inclined to wonder at the perfect condition of the specimen.

We are indebted for this valuable tablet to Squire W. McDonnell, of Lindsay, Victoria county.

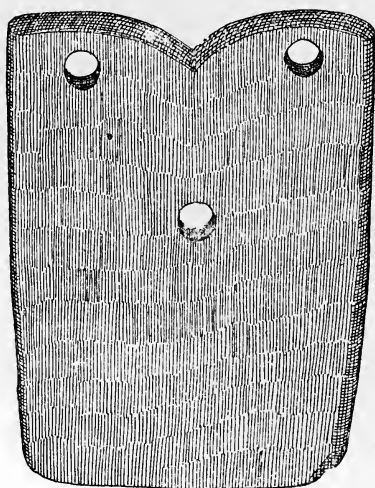


FIG. 12.

The handsome specimen here figured is from the collection procured by the Institute from Chief A. G. Smith, of Brantford. In point of perfection it is almost equal to the specimen illustrated by Fig. 11, and in at least one respect it is superior, viz., in the arrangement of the holes. Like Fig. 11 it is also unusually thin. It differs from most other objects of its class as to material, which in this case is a very fine-grained stone resembling in color and appearance German lithographic limestone.

BONE.



FIG. 13.

This specimen may have been a pin for fastening clothing, or a tool for marking pottery, or it may simply have been used as a ally-bone. It is acutely pointed at one end, and its edges are tolerably sharp. At what may be called the head are two series of notches which may have been intended either for ornament or as a record.

The specimen was found in Brant county and is part of the Smith collection.

COPPER.

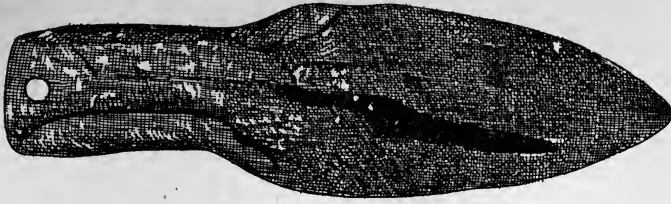


FIG. 14.

Fig. 14 represents a spearhead of copper found in Lanark county, and presented by Dr. T. W. Beeman. It is provided with a socket. The blade is thin and flat on both sides. It is peculiar in having a hole at the head of the socket as if to aid in fastening the handle. This hole may be of recent origin.

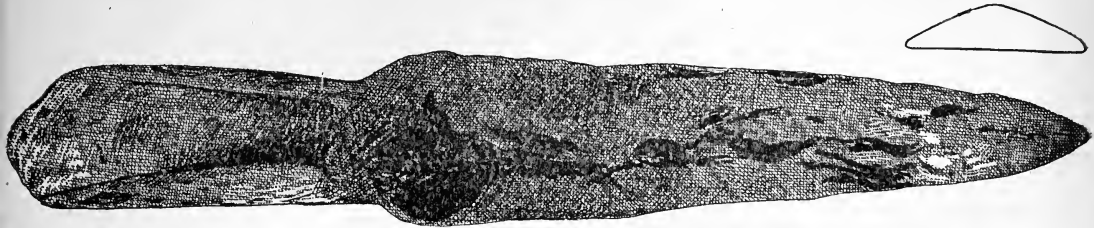


FIG. 15.

In Fig. 15 we have what represents a very fine specimen of native copper weapon. Like the specimen shown at Fig. 14 it is provided with a socket which is neatly formed. The side of the blade shown is flat, the opposite side is ridged as shown in cross section in the diagram. This specimen also was presented by Dr. T. W. Beeman.

THE SOUTHWOLD EARTHWORK AND THE COUNTRY OF THE NEUTRALS.

By JAMES H. COYNE, B.A.

That part of the township of Southwold lying between Talbot Creek and the most westerly bend of Kettle Creek included several Indian earthworks, which were well known to the pioneers of the Talbot settlement. What the tooth of time had spared for more than two centuries yielded, however, to the settler's plow and harrow, and but one or two of these interesting reminders of an almost-forgotten race remain to gratify the curiosity of the archæologist or of the historian. Fortunately, the most important of all is still almost in its original condition. It is that which has become known to the readers of the transactions of the Canadian Institute as the Southwold Earthwork. Mr. David Boyle, in the Archæological Reports printed in 1891, has given the results of his examinations of the mounds, and there is now in the possession of the Institute a carefully prepared plan made from actual survey by Mr. A. W. Campbell, C.E., for the Elgin Historical and Scientific Institute of St. Thomas, and presented by the latter to the Canadian Institute. Mr. Boyle's reports and Mr. Campbell's plan will together form a valuable, and, it is hoped, a permanent record of this interesting memorial of the aboriginal inhabitants of south-western Ontario.

The writer of this paper has been acquainted with "the old fort," as it was called, since the year 1867. At that time it was in the midst of the forest. Since then the woods have been cleared away, except within the fort and north of it. Indeed, a considerable number of trees have been felled within the southern part of the enclosure. In the mounds themselves trees are abundant, and there are many in the moat or ditch between. The stumps of those which have been cut down are so many chronological facts, from which the age of the fort may be conjectured with some approach to accuracy. A maple within the enclosure exhibits 242 rings of annual growth. It was probably the oldest tree within the walls. A maple in the outer embankment shows 197 rings; between the inner and outer walls a beech stump shows 219 rings, and an elm 266. Judging from the size of these stumps, it would be safe to calculate the age of the forest at about 200 years, with here and there a tree a little older. The area enclosed is level. In the field south there are numerous hummocks formed by the decayed stumps and roots of fallen trees. The walls were manifestly thrown up from the outside. There is an exception on the south-east. Here the ground outside was higher, and to get the requisite elevation the earth was thrown up on both walls from the intervening space, as well as on the exterior wall from the outside. Each of the walls runs completely round the enclosure, except where the steep bank of the little stream was utilized to eke out the inner wall for five or six rods on the west side, as shown on the plan. Opposite the south end of this gap was the original entrance through the outer wall. The walls have been cut through in one or two other places, doubtless by settlers hauling timber across them.

The writer accompanied Mr. Campbell on his visits in the spring and fall of 1891. The members of the Elgin H. and S. Institute made a pretty thorough examination of a large ash-heap south-east of the fort. It had, however, been frequently dug into during the last score or two of years, with ample results, it is said, in the way of stone implements of various kinds. There still remained, however, arrow-heads and chippings of flint, stones partially disintegrated from the action of heat, fragments of pottery whose markings showed a very low stage of artistic development; fish-scales, charred maize and bones of small animals

the remains of aboriginal banquets. Within the enclosure, corn-cobs were found by digging down through the mould, and a good specimen of a bone needle, well smoothed but without any decoration, was turned up in the bed of the little stream where it passes through the fort.

The original occupants were manifestly hunters, fishermen and agriculturists, as well as warriors. Nothing appears to have been found in the neighborhood pointing to any intercourse between them and any European race.

It would seem that the earthwork was constructed in the midst of a large clearing, and that the forest grew up after the disappearance of the occupants. A few saplings, however, may have been permitted to spring up during their occupancy for the sake of the shelter they might afford. These are represented by the oldest stumps above mentioned.

The question, who were the builders, is an interesting one. To answer it, we need not go back to a remoter period than the middle of the 17th century, when the Iroquois, after destroying the Huron settlements, turned their attention to the southward, and the Neutral nation ceased to exist. However long before that time it may have been built, the enclosure was, we may reasonably believe, a fortified village of the Neutrals up to their evacuation of this Province nearly a quarter of a millennium ago.

Substantially all that is known of the Neutrals, is to be found in Champlain's works, Sagard's history, the Relations and Journal of the Jesuits, and Sanson's map of 1656. A digest of the information contained therein is given in the following pages. The writer has availed himself of one or two other works for some of the facts mentioned. Mr. Benjamin Sulte's interesting and learned articles on "Le pays des grands lacs au XVII^e Siècle" in that excellent magazine, "Le Canada Français," have been most valuable in this connection.

The first recorded visit to the Neutrals was in the winter of 1626, by a Recollet father, De Laroche-Daillon. His experiences are narrated by himself, and Sagard, who includes the narrative in his history, supplements it with one or two additional facts. In company with the Jesuit Fathers, Brebeuf and de Noue, Daillon left Quebec with the purpose of visiting the Hurons, who were settled in villages between the Georgian Bay and Lake Simcoe, and of laboring for their conversion. After the usual hardships, journeying by canoe and portage, by way of the Ottawa and French Rivers, they arrived at their destination. The ill-fated Brûlé told wonderful stories of a nation, whom the French called the Neutrals, and Father Joseph Le Caron wrote Daillon urging him to continue his journey as far as their country.

He set out accordingly on the 18th October, 1626, with two other Frenchmen, Grenolle and la Vallée. Passing through the territory occupied by the Tobacco nation, he met one of their chiefs, who not merely offered his services as guide, but furnished Indian porters to carry the packs and their scanty provisions. They slept five nights in the woods, and on the sixth day arrived at the first village of the Neutrals. In this as well as in four other villages which they visited, they were hospitably entertained with presents of food, including venison, pumpkins, "neintahouy," and "the best they had." Their dress astonished their Indian hosts, who were also surprised that the missionary asked nothing from them but that they should raise their eyes to heaven, and make the sign of the cross.

What excited raptures of admiration, however, according to his narrative, was to see him retire for prayer at certain hours of the day, for they had never seen any religious, except amongst the neighboring Hurons and Tobacco Indians.

At the sixth village, Ounontisaston, in which Daillon had been advised to take up his abode, a council was held at his instance. He observes that the

councils are called at the will of the chiefs, and held either in a wigwam or in the open air, the audience being seated on the ground; that silence is preserved whilst a chief is addressing the assembly, and that they are inviolable observers of what they have once concluded and settled.

Daillon explained that he had come on the part of the French to make alliance and friendship with them and to invite them to come and trade, and begged them to permit him to stay in their country "to instruct them in the laws of our God, which is the only means of going to paradise." They agreed to all he proposed, and in return for his gifts of knives and other trifles, they adopted him as "citizen and child of the country," and as a mark of great affection entrusted him to the care of Souharissen, who became his father and host. The latter was, according to Daillon, the chief of the greatest credit and authority that had ever been in all the nations, being not only chief of his village, but of all those of his nation, to the number of twenty-eight, besides several little hamlets of seven to eight cabins built in different places convenient for fishing, hunting or cultivating the ground.

Souharissen had acquired so absolute an authority by his courage and his success in war. He had been several times at war with the seventeen tribes who were their enemies, and from all he had brought back heads of those he had slain, or prisoners taken alive. His authority was without example amongst other tribes.

The Neutrals are reported by Daillon as being very warlike, armed only with war-club and bow, and dexterous in their use. His companions having gone back, the missionary remained alone, "the happiest man in the world," seeking to advance the glory of God, and to find the mouth of the river of the Iroquois,* in order to conduct the savages to the French trading posts. He visited them in their huts, found them very manageable, learned their customs, remarked that there were no deformed people amongst them, and taught the children, who were sprightly, naked and unkempt, to make the sign of the Holy Cross.

The natives were willing that at least four canoes should go to trade if he would conduct them, but nobody knew the way.

Yrcquet, an Indian known in the country, who had come beaver-hunting with twenty of his tribe, and taken 500, declined to give him any indication of the mouth of the river, but he agreed with several Hurons in assuring Daillon that a journey of ten days would take him to the trading post. The missionary, however, was afraid of taking one river for another and getting lost or perishing of hunger.

For three months he was treated with kindness. Then the Hurons became jealous lest the trade should be diverted from them. They accordingly circulated rumors through every village, that Daillon was a great magician, that he had poisoned the air in their country, and many had died in consequence, that if he was not soon killed, he would burn up their villages and kill their children, with other stories as extraordinary about the whole French nation. The Neutrals were influenced by the reports. Daillon's life was in danger on more than one occasion. The rumor reached Brebeuf and de Noue, that he had been killed. They at once despatched Grenolle to ascertain the truth, with instructions to bring Daillon back if alive. He acquiesced, and returned to the Huron country.

He speaks of a Neutral village, called Ouaroronon, one day's journey from the Iroquois, the people of which came to trade at Ounontisaston. Their village was the last of the Neutral villages.

* NOTE.—This was doubtless the Niagara.

Dailon, like every other traveler, was charmed with the Neutral country, which he pronounces incomparably greater, more beautiful and better than any other "of all these countries." He notes the incredible number of deer, the native mode of taking them by driving them into an enclosure, and their practice of killing every animal they find, whether they needed it or not. The reason alleged was that if they did not kill all, the beasts that escaped would tell the others how they had been chased, so that afterwards when the Indians needed game they would not be able to get near it. He enumerates moose, beaver, wild cats, black squirrels, larger than squirrels in France, bustards, turkeys, cranes, etc., as abundant, and remaining in winter. The winter was shorter and milder than "in Canada." No snows had fallen by the 22nd November. The deepest was not more than two and a half feet. Thaws set in on the 26th January. On the 8th March the snow was gone from the open places, but a little still lingered in the woods. The streams abounded in very good fish. The ground produced more corn than was needed, besides pumpkins, beans and other vegetables in abundance, and excellent oil. He expresses his surprise that the Merchants' Company had not sent some Frenchman to winter in the country, for it would be very easy to get the Neutrals to trade, and the direct route would be much shorter than that by way of French River and the Georgian Bay. He speaks of the Neutrals' country as being nearer than the Huron to the French, and as being on one side of the lake of the Iroquois (Lake Ontario), whilst the Iroquois were on the other. The Neutrals, however, did not understand the management of canoes, especially in the rapids, of which there were only two, but long and dangerous. Their proper trade was hunting and war; they were lazy and immoral; their manners and customs were very much the same as the Hurons; their language was different, but the members of the two nations understood one another; they went entirely unclad.

Sagard adds that "according to the opinion of some" the Neutrals' country was eighty leagues in extent, and that they raised very good tobacco which they traded with their neighbors. They were called Neutrals on account of their neutrality between the Hurons and the Iroquois; but they were allies of the Cheveux Relevés against their mortal enemies of the Nation of Fire. Sagard was dissuaded by some members of the French trading company from attempting to bring about a peace between the Hurons and the Iroquois. It was supposed that this would divert the trade of the Hurons from Quebec through the Iroquois country to the Dutch of the Hudson River. At so early a date did the question of trade relations between the territories north and south of the lakes agitate the minds of statesmen and men of commerce.

In the winter of 1640-1, the Jesuit missionaries, Brebeuf and Chaumonot, traversed the country of the Neutrals. The former composed a dictionary showing the differences between the kindred dialects of the Hurons and Neutrals. Chaumonot made a map of the country, which is not extant; but it was no doubt the authority for the delineation of the territory on Sanson's map of 1656, and Ducreux's Latin map of 1660. It is highly probable that they reached the Detroit River, and that they visited and named the Neutral village, of which the Southwold earthwork is the memorial. The reasons for thinking so will appear in the course of this paper.

What is probably the first printed map in which Lake Erie is shown was made by N. Sanson d'Abbeville, Geographer in Ordinary to the King, and printed in Paris, with "privilege du Roy" for 20 years, in the year 1656. It is a map of the northern part of America. The sources of information are stated in general terms, which may be translated as follows: "The most northerly portion is drawn from the various Relations of the English, Danes, etc. Towards the

" south the coasts of Virginia, New Sweden, New Netherlands and New England " are drawn from those of the English, Dutch, etc. THE GREAT RIVER OF " CANADA, or of St. Lawrence, and all the neighboring regions (*environs*) are " according to the Relations of the French."

Now, we know that Father Raymbault visited Sault Ste. Marie in 1641 and mapped Lake Superior, and that Father Chaumonot in the same year rendered the same service for the Neutral country. Sanson's map is fairly accurate for the upper lakes, when compared with some maps published at a much later period when the lakes had become well known to traders and travelers. It shows an acquaintance with the general contour of Lakes Erie, St. Clair and Huron, with several of the streams emptying into Lake Erie and Lake Huron on both the Canadian and the American sides, with the names of tribes inhabiting both shores, and with the locations of five towns of the Neutrals, besides some towns of the Tobacco nation. The Neutral towns are given as S. François (N.E. of Sarnia), S. Michel (a little east of Sandwich), S. Joseph (apparently in the County of Kent), Alexis (a few miles west of a stream which flows into Lake Erie about midway between the Detroit and Niagara Rivers, and where the shore bends farthest inland), and N. D. des Anges (on the west bank of a considerable river, probably the Grand River, near where Brantford now stands*). The Detroit and Niagara Rivers, and four streams flowing into Lake Erie between them, are shown but not named. The great cataract is called "Ongiara Sault." The name "Ongiara" may, however, be that of a Neutral village east of the Falls. Lake St. Clair is called "Lac des Eaux de Mer," or Sea-water Lake, possibly from the mineral springs in the neighborhood. The country of the Tobacco Nation includes the Bruce peninsula, and extends from the Huron country on the east to Lake Huron on the west and Burlington Bay on the south-east. The Neutral country (*Neutre ou Attiouandarons*) would embrace the whole of south-western Ontario south of a line drawn from the west end of Lake Ontario to a stream which flows into Lake Huron about midway between Point Edward and Cape Hurd, and which is probably the Maitland River. The tribes to the south of the lakes are indicated from the Niagara River to Lake Superior. The Eries or "Eriechronons, on du Chat," are south-east of Lake Erie; the "Ontarraronon" are west of what is probably the Cuyahoga River; at the south-west of the Lake appear the "Squenqioronon;" west of the Detroit River are the "Aictaeronon;" west of Port Huron the "Couarronon;" Huron county in Michigan is occupied by the "Ariaetoeronon;" at the head of Saginaw Bay and extending southward through Michigan are the "Assistaéronons ou du Fen;" in the peninsula extending north to Mackinac are the "Oukouarararonons;" beyond them Lake Michigan appears as "Lac de Puans;" then comes the Mackinac peninsula and "Lac Supérieur." Manitoulin Island is marked "Cheveux Relevés," the old French name for the Ottawas. The Tobacco Nation, called "N. du Petun on Sanhionontateheronons," includes villages of "S. Simon et St Iude" in the Bruce promontory, "S. Pierre" near the south end of the County of Bruce, and "S. Pol" south-west of a lake which might be Scugog.

The Narratives agree in stating that the Neutrals, like their kinsmen of the Huron, Tobacco and Iroquois nations, were a numerous and sedentary race, living in villages and cultivating their fields of maize, tobacco and pumpkins. They were on friendly terms with the eastern and northern tribes, but at enmity with those of the west, especially the Nation of Fire, against whom they were constantly sending out war parties. By the western tribes it would appear that those west of the Detroit River and Lake Huron are invariably meant.

* Alexis corresponds with the actual situation of the Southwold earthwork.

Champlain refers to the Neutrals in 1616 as a powerful nation, holding a large extent of country and numbering 4,000 warriors, and to their alliance with the Cheveux Relevés (the Ottawas), whom he visited in the Bruce peninsula, against the Nation of Fire. He states that the Neutrals lived two days to the south of the Cheveux Relevés, and the Nation of Fire ten days from the latter. The Nation of Fire occupied part of what is now Michigan, and it is quite probable that they extended as far east as the Detroit and St. Clair Rivers.

Describing his visit to the Cheveux Relevés, he adds: "I had a great desire to go and see that nation (the Neutrals), had not the peoples where we were dissuaded me from it, saying that the year before one of ours had killed one of them, being at war with the 'Entouhoronons' (the Senecas), and that they were angry on account of it, representing to us that they are very subject to vengeance, not looking to those who dealt the blow but the first whom they meet of the nation, or even their friends, they make them bear the penalty when they can catch any of them, unless beforehand peace had been made with them and one had given them some gifts and presents for the relatives of the deceased, which prevented me for the time from going there, although some of that nation assured us that they would do us no harm for that. This decided us, and occasioned our returning by the same road as we had come, and continuing my journey I found the nation of the Pisierinij," etc.*

Brebeuf, who reckons the Hurons at more than 30,000, describes the Neutrals in 1634 as much more numerous than the former. The Relation of 1641 gives them at least 12,000, but adds that notwithstanding the wars, famine and disease (small-pox) which since three years had prevailed in an extraordinary degree, the country could still furnish 4,000 warriors, the exact number estimated by Champlain a quarter of a century earlier. The name of the Neutrals is variously given as "Attikadaron," "Atiouandaronk," "Attiouandaron," "Attiwandaronk," but the last is the more common. The name signified "people who spoke a slightly different dialect," and was equally applied to the Hurons by the Neutrals. The Neutrals are mentioned in the Relations as one of the twelve numerous and sedentary nations who spoke a common language with the Hurons. The "Oueanohronons" formed "one of the nations associated with the Neutral nation." They are afterwards called in the same Relation (1639) the "Wenrôhronons," and are said to have lived on the borders of the Iroquois, more than 80 leagues from the Huron country. So long as they were on friendly terms with the Neutrals they were safe from the dreaded Iroquois, but a misunderstanding having arisen between them, they were obliged to flee in order to avoid extermination by the latter. They took refuge (more than 600 in all) with the Hurons, and were received in the most friendly and hospitable manner.

The Relation of 1640 speaks of a Huron map communicated by Father Paul Ragueneau, in which a large number of nations, most of them acquainted with the Huron language, are shown, including the Iroquois, the Neutrals, the Eries, etc. The "Mission of the Apostles" was established among the Tobacco Nation by Garnier and Jogues, in 1640. Nine villages visited by them were endowed by the missionaries with the names of apostles, two of which are given in Sanson's map of 1656.† In one "bourg," called S. Thomas, they baptised a boy five years old, belonging to the Neutral nation, who died immediately afterwards.

* NOTE.—The above translation is verbatim and exhibits the author's peculiarities of style. The Pisierinij are of course the Nipissings.

† The principal "bourg" was Ehwaë, surnamed S. Pierre et S. Paul. If S. Pierre on Sanson's map is the same place, this must have been near the south end of the County of Bruce. The other village or mission shown on the map is S. Simon et S. Jude.

"He saw himself straightway out of banishment and happy in his own country." The famine had driven his parents to the village of the Tobacco Nation. The devoted missionaries add, that this was the first fruits of the Neutral Nation.

In the fall of the same year "the Mission of the Angels" was begun among the Neutrals. The lot fell upon Jean de Brebeuf and Joseph Marie Chaumonot. The former was the pioneer of the Jesuit Mission. He had spent 3 years among the Hurons, from 1626 to 1629, and, after the restoration of Canada to France by Charles I, he had returned, in 1634, to the scene of his earlier labors. His associate had only come from France the year before. Brebeuf was distinguished for his mastery of the native tongues, and Chaumonot had been recognized as an apt student of languages. The plan of the Jesuits was to establish in the new mission a fixed and permanent residence, which should be the "retreat" of the missionaries of the surrounding country, as Ste. Marie was of those of the Huron mission.

Lalemant, from their report, describes the Neutral nation as exceedingly populous, including about 40 villages (*bourgous bourgades*). The nearest villages were 4 or 5 days' journey, or about 40 leagues distant from the Hurons, going due south. He estimates the difference in latitude, between Ste. Marie and the nearest village of the Neutrals to the south, at about $1^{\circ}55'$. Elsewhere the distance is spoken off as about 30 leagues.

From the first "bourg," going on to the south or south-west, (a mistake, for south-east it would seem), it was about four days' journey to the mouth of the Niagara River. On *this* side of the river and not beyond it, as "some map" lays it down, (Champlain's, doubtless,) were most of the "bourgs" of the Neutral nation. There were three or four on the other side, towards the Eries. Lalemant claims, and there is no doubt as to the fact, that the French were the first Europeans to become acquainted with the Neutrals. The Hurons and Iroquois were sworn enemies to each other, but in a wigwam, or even a camp of the Neutrals, until recently, each had been safe from the other's vengeance. Latterly, however, the unbridled fury of the hostile nations had not respected even the neutral ground of their mutual friends. Friendly as they were to the Hurons and Iroquois, the Neutrals engaged in cruel wars with other nations to the west, particularly the nation of Fire, as has been stated above. The previous year a hundred prisoners had been taken from the latter tribe. This year, returning with 2,000 warriors, the Neutrals had carried off more than 170. Fiercer than the Hurons, they burned their female prisoners. Their clothing and mode of living differed but little from those of the Hurons. They had Indian corn, beans and pumpkins in equal abundance. Fish were abundant, different species being met with in different places. The country was a famous hunting ground. Deer, elk, (or whatever were meant by "*vaches*"), wild cats, wolves, "black beasts," (squirrels), beaver and other animals, valuable for their skins and flesh, were in abundance. It was a rare thing to see more than half a foot of snow. This year there was more than three feet. The deep snow had facilitated the hunting, and, in happy contrast with the famine which had prevailed, meat was plentiful. They had also multitudes of wild turkeys, which went in flocks through the fields and woods. Fruits were no more plentiful than among the Hurons, except that chestnuts abounded, and wild apples were a little larger.

Their manners and customs, and family and political government were very much like those of the other Indian tribes, but they were distinguished from the Hurons by their greater dissoluteness and indecency. On the other hand, they were taller, stronger, and better formed.

Their burial customs were peculiar, although similar customs are reported at this day amongst some African tribes. The bodies remained in their wigwams.

until decomposition rendered them insupportable, when they were put outside on a scaffold. As soon as possible, the bones were removed and arranged within their wigwams on both sides, in sight of the inmates, where they remained until the Feast of the Dead.

Having these mournful objects before their eyes, the women habitually indulged in cries and laments, in a kind of chant.

The Neutrals were distinguished for the multitude and quality of their madmen, who were a privileged class amongst them. The immunities they enjoyed were frequently the cause of shrewd, bad, Indians assuming the character of maniacs, in order to perpetrate crimes without fear of punishment. The Jesuits suffered much at their hands.

Some old men told them that the Neutrals used to carry on war "towards" a certain western nation, who would seem to have lived on the Gulf of Mexico, where the "porcelain, which are the pearls of the country," was obtained from a kind of oysters. They also obtained some vague notions of alligators, which are, apparently, referred to by the description "certain aquatic animals, larger and swifter than the elk," against which these some people had "a kind of war," the details of which are somewhat amusing, as given by Lalemant.

The two Jesuits left Ste. Marie the 2nd November, 1640, with two French servants (probably "donnés") and an Indian. They slept 4 nights in the woods. The 5th day they arrived at the first "bourg" of the Neutral Nation, called Kandoucho, but to which they gave the name of All Saints. This is probably the same as N. D. des Anges, on Sanson's map, and not far, perhaps, from the site of Bradford.

Owing to the unfavorable reports which had been spread through the country about the Jesuits, the latter were anxious to explain their purposes to an assembly of the chiefs and old men. The head chief, "who managed the affairs of the public," was called Tsohahissen, (doubtless the same as Daillon's Souharissen). His "bourg" was "in the middle of the country"; to reach it, one had to pass through several other "bourgs et bourgades." In Sanson's map, Alexis is placed almost exactly "in the middle of the country" of the Neutrals. No other village is marked on the map to which the expression could be applied. Its situation nearly midway between the Detroit and Niagara rivers, a few miles west of a stream which flows into Lake Erie, just where the mouth of Kettle creek would appear in a map of our own century, corresponds with that of the Southwold earthwork. Was the latter the Neutrals' capital? We can only conjecture; but the evidence of the Relations, the map and the forest growth, all points strongly to an affirmative answer to the question. There is a strong probability that it was here Tsohahissen reigned (if the expression is allowable, as referring to an Indian potentate) as head chief of the forty Neutral villages. Through the western gate, doubtless, his warriors set out to wage their relentless warfare against the nation of Fire, and, when satiated with blood, came back in triumph, adorned with the scalps of their enemies.

Brebeuf's Huron surname, "Echon," had preceded him. He was regarded as "one of the most famous sorcerers and demons ever imagined." Several Frenchmen had travelled through the country before him, purchasing furs and other commodities. These had smoothed the way for the Jesuits. Under the pretext of being traders, Brebeuf's party succeeded in making their way, in spite of all obstacles interposed. They arrived at the head chief's village, only to find that he had gone on a war party and would not return until spring. The missionaries sought to negotiate with those who administered affairs in his absence. They desired to publish the Gospel throughout these lands, "and thereby to contract a particular alliance with them." In proof of their desire, they had brought a neck-

lace of two thousand grains of "porcelain," which they wished to present to "the public." The inferior chiefs refused to bind themselves in any way by accepting the presents, but gave the missionaries leave, if they would wait until the chief of the country returned, to travel freely and give such instruction as they pleased. Nothing could have suited the fathers better. First, however, they decided to return in their steps and reconduct their domestics out of the country, and then resume their journey for the second time, and "begin their function." As it had been the servants, however, who had assumed the rôle of traders, and this pretext was now wanting to the Jesuits, they suffered everywhere from the malicious reports which had been circulated as to their purposes in visiting the nation, and the acts of sorcery with which they were charged. The Hurons of the Georgian Bay, alarmed for the monopoly they had hitherto enjoyed, and jealous of the French traders, had sent emissaries amongst the Neutrals to poison their minds against the adventurous travelers by the most extraordinary calumnies. For these reports two Huron Indians, Aouenhokoui and Oëntara were especially responsible. They had visited several villages, presented hatchets in the name of the Huron chiefs and old men, and denounced their visitors as sorcerers, who desired to destroy the Neutrals by means of presents. These representations were so effectual that a council was held by the chiefs and the present was formally refused, although permission to preach was granted.

From village to village they passed, but everywhere the doors were barred to them. Hostile looks greeted them wherever they went. No sooner did they approach a village than the cry resounded on all sides "Here come the Agwa." This was the name given by the natives to their greatest enemies. If any received the priests into their dwellings, it was more frequently from fear that the sorcerers would revenge the refusal, than from the hope of gain, "God making use of everything in order to nourish his servants."

In the graphic language of Lalemant: "The mere sight of the fathers, in figure and habit so different from their own, their gait, their gestures and their whole deportment, seemed to them so many confirmations of what had been told them. The breviaries, ink-stands and writings were judged by them instruments of magic; if the Frenchmen prayed to God, it was precisely according to their idea an exercise of sorcerers. Going to the stream to wash their dishes, it was said they were poisoning the water; it was charged that through all the wigwams, wherever they passed, the children were seized with a cough and blood flux, and the women became barren. In short, there was no calamity, present or to come, of which they were not considered as the source. Several of those with whom the fathers were lodged did not sleep day or night on account of it; they dared not touch what had been handled by them; they returned their presents, regarding everything as suspicious. The good old women already regarded themselves as lost, and only regretted their little children, who might otherwise have been able to re-people the earth."

The Neutrals intimidated the fathers with accounts of the Senecas, who they were assured were not far off. They spoke of killing and eating the missionaries. Yet in the four months of their sojourn Brebeuf and Chaumonot never lacked the necessities of life, lodging and food, and amidst difficulties and inconveniences better imagined than described, they retained their health. Their provision of food was bread, baked under ashes, after the fashion of the country, and which they kept for thirty and forty days to use in case of need.

"In their journey the fathers passed through eighteen '*bourgs ou bourgades*,' to all of which they gave a Christian name, of which we shall make use hereafter on occasion. They stayed particularly in ten, to which they gave as much

"instruction as they could find hearers. They report about 500 fires and 3,000 persons, which these ten *bourgades* may contain, to whom they set forth and published the Gospel, but it is very difficult for the sound of it to have rung through the whole country. We reckon, however, only these 3,000 in our calculation."

In another place it is stated that there were 40 villages of the Neutrals in all.

Disheartened, the fathers decided to return to Kandoucho, or All Saints, to await the spring. Midway, however, at the village of "Teotongniaton," or S. Guillaume (perhaps in the vicinity of Woodstock), the snow fell in such quantities as to be impassable. They lodged here in the cabin of a squaw, who entertained them most hospitably, and instructed them in the language, dictating narratives syllable by syllable as to a schoolboy. Here they stayed twenty-five days, "adjusted the dictionary and rules of the Huron language to that of these tribes (the Neutrals), and accomplished a work which alone was worth a journey of several years in the country."

Hurons from the Mission of La Conception volunteered to go to the relief of the daring travelers. After eight days of travel and fatigue in the woods the priests and the relief party arrived at Ste. Marie on the very day of St. Joseph, patron of the country, in time to say Mass, which they had not been able to say since their departure.

Amongst all the eighteen villages visited by them only one (that of "Khioetou," called by the fathers Saint Michel) gave them the audience their embassy merited. In this village, years before, driven by fear of their enemies, had taken refuge a certain foreign nation, "which lived beyond Erie or the Cat Nation," named "Aouenrehronon." It was in this nation that the fathers performed the first baptism of adults. These were probably a portion of the kindred Neutral tribe, the Wenrôhronons, referred to above as having fled to the Huron country from the Iroquois.*

Sanson's map shows S. Michel a little east of where Sandwich now stands.

Owing to their scanty number and the calumnies circulated amongst the Indians respecting the Jesuits of the Huron Mission, the latter resolved to concentrate their forces. The Neutral mission was abandoned, but Christian Indians visited the Neutrals in 1643, and spread the faith amongst them with a success which elicits Lalemant's enthusiastic praises. Towards the end of the following winter a band of about 500 Neutrals visited the Hurons. The fathers did not fail to avail themselves of their opportunity. The visitors were instructed in the faith, and expressed their regret that their teachers could not return with them. A different reception from that experienced by Brebeuf and Chaumonot three years before was promised.

Lalemant relates that, in the summer of 1643, 2,000 Neutrals invaded the country of the Nation of Fire and attacked a village strongly fortified with a palisade and defended stoutly by 900 warriors. After a ten days' siege they carried it by storm, killed a large number on the spot, and carried off 800 captives, men, women and children, after burning 70 of the most warlike and blinding the eyes and "girdling the mouths" of the old men, whom they left to drag out a miserable existence. He reports the Nation of Fire as more populous than the Neutrals, the Hurons and the Iroquois all together. In a large number of their villages the Algonkin language was spoken. Farther away it was the prevailing tongue. In remote Algonkin tribes at that early day there were Christians who knelt, crossed their hands, turned their eyes Heavenward, and prayed to God

* NOTE.—Compare also the name of the village referred to by Sagard, "Ouaroronon."

morning and evening and before and after their meals, and the best mark of their faith was that they were no longer wicked nor dishonest as they were before. So it was reported to Lalemant by trustworthy Hurons, who went every year to trade with Algonkin nations scattered here and there in the far west.

Ragueneau, in the Relation of 1648, refers to Lake Erie as being almost 200 leagues in circuit, and precipitating itself by "a waterfall of a terrible height" into Lake Ontario or Lake St. Louys.

The "Aondironnons," a tribe of the Neutrals living nearest to the Hurons, were treacherously attacked in their village by 300 Senecas, who, after killing a number of them, carried as many as possible away with them as prisoners. The Neutrals showed no open resentment, but quietly prepared to revenge themselves.

A Christian Huron, a girl of 15, taken prisoner by the Senecas, escaped from them and made her way to the Neutral country, where she met four men, two of whom were Neutrals and the others enemies. The latter wished to take her back to captivity, but the Neutrals, claiming that within their country she was no longer in the power of her enemies, rescued her, and she returned in safety to Ste. Marie.

These incidents were the prelude to the storm which shortly afterwards burst. In 1650 the principal part of the Iroquois forces was diverted against the Neutrals. They carried two frontier villages, in one of which were more than 1,600 men—the first at the end of the autumn, the second early in the spring of 1651. The old men and children, who might encumber them on their homeward journey, were massacred. The number of captives was excessive, especially of young women, who were carried off to the Iroquois towns. The other villages more remote were seized with terror. They abandoned their houses, their property and their country. Famine pursued them. Scattered amongst distant woods, lakes and rivers they lived in wretchedness and want, and in constant apprehension of their relentless enemy.

The Journal (April 22, 1651) adds that after the destruction of the Neutral village the* previous autumn the Neutral warriors, under the lead of the Tahontaenrat, had followed the assailants and killed or taken 200 of them, and 1,200 Iroquois warriors had returned in the spring to avenge this disaster. In August a Huron reported at Montreal the capture of Te ot 'ondiaton (probably the village in which Brebeuf composed his dictionary, and which is referred to in the Relation as having been taken in the spring). The condition of the Neutrals was desolate and desperate. In April, 1652, news reached Quebec that the Neutrals had leagued with the Andastes against the Iroquois, that the Senecas had been defeated in a foray against the Neutrals, so that the Seneca women had been constrained to quit their village and retreat to the Oneida country; and also that the Mohawks had gone on the war path against the Andastes during the winter, and the issue of the war was unknown. The last of July, 1653, seven Indians from the Huron country arrived at Quebec and reported a great gathering near Mackinac of all the Algonkin nations, with the remains of the Tobacco and Neutral nations at A'otonatendié, three days above the Sault Ste. Marie (Skia'é) towards the south. The Tobacco Indians had wintered at Tea'onto'raï, the Neutrals to the number of 800 at Sken'chio'e towards Te'o'chanontian. These were to rendezvous the next fall with the Algonkins, who were already on the spot to the number of 1,000.

This is probably the last we hear of the Neutrals under their own name. †

* Hurons from Georgian Bay.

† Some of the survivors united with the remnant of the Hurons at Mackinac and on Lake Superior, and under the name of the Hurons or Wyandots they appear from time to time on the page of history. Their removal to Detroit, on the establishment of the latter trading place by Cadillac, is perpetuated by the name of Wyandotte, to the south of the City of the Straits.

Parkman mentions the circumstance that an old chief named Kenjockety, who claimed descent from an adopted prisoner of the Neutral nation, was recently living among the Senecas of Western New York.

It is stated in the "History of the County of Middlesex" that over sixty years ago "Edouard Petit, of Black River, discovered the ruins of an ancient building on the Rivière aux Sables, about forty miles from Sarnia. Pacing the size he found it to have been 40 x 24 ft. on the ground. On the middle of the south or gable end was a chimney 18 ft. high in excellent preservation, built of stone, with an open fireplace. The fireplace had sunk below the surface. This ruin had a garden surrounding it, ten or twelve rods wide by twenty rods in length, marked by ditches and alleys. Inside the walls of the house a splendid oak had grown to be 3 ft. in diameter, with a stem 60 ft. high to the first branch. It seemed to be of second growth, and must have been 150 years reaching its proportions as seen in 1828-9."

This must have been the mission of S. François, shewn on Sanson's map.

After the expulsion of the Neutrals the north shore of Lake Erie remained an unpeopled wilderness until a century ago. It was described in maps as "Chasse de Castor des Iroquois." The unbroken forest teemed with deer, bears, racoons, foxes, wolves and wild turkeys, and beaver dams still remain in large numbers to justify the cartographers of two centuries ago. Dollier de Casson and Galinée portaged from Burlington Bay to the Grand River in the autumn of 1669. La Salle, who had been with them, turned back, and left them to proceed without him. They met Jolliet, who gave them valuable topographical information. Then they descended the Grand River to Lake Erie. They built a hut on

bank of a stream opposite Long Point (doubtless Patterson's Creek) and wintered there. After a sojourn of over five months they proceeded westward along the north shore of the Lake. Losing a canoe in a storm and their two canoes being unable to carry more than four men, five of the party had to travel by land.* They proceeded up the lakes to the Sault. Galinée mapped out the north shore of Lake Erie from his own observation.† Before leaving their winter abode, however, they had set up a cross with an inscription, the *procès verbal* of which translated is as follows :

"We, the undersigned, certify that we have seen affixed on the lands of the lake called Erié the arms of the King of France, with this inscription : The year of salvation 1669, Clement IX. being seated in St. Peter's chair, Louis XIV. reigning in France, M. de Courcelle being Governor of New France, and M. Talon being intendant therein for the King, there arrived in this place two missionaries from Montreal, accompanied by seven other Frenchmen, who, the first of all European peoples, have wintered on this lake, of which, as of a territory not occupied, they have taken possession in the name of their King by the apposition of his arms, which they have attached to the foot of this cross. In witness whereof we have signed the present certificate.

FRANÇOIS DOLLIET,
Priest of the Diocese of Nantes, in Brittany.

DE GALINÉE,
Deacon, of the Diocese of Rennes, in Brittany."

* Near one of the creeks (probably Kettle Creek or Catfish Creek) in the County of Elgin, they found the canoe Jolliet had hidden, and the difficulties of their journey were lessened.

† He refers to Sanson's map in his account of the exploration,
4 (C.I.)

With the formal taking possession of the country by the French this paper may fittingly close. Further research may add to our knowledge of the early history and geography of the Neutrals' country. Meanwhile we may admire the wisdom which they displayed in settling in so choice a region as the southwestern peninsula of Ontario. The north shore of Lake Erie was well called "the Paradise of the Hurons," and perhaps no portion of it deserved the appellation better than the ancient clearing in the midst of which was erected the earth-work which has been under consideration in this paper, and which in all probability was the residence of the chief Tsohahissen, and the abode for a time of Brebeuf and Chaumonot as they waited the chief's return in that stormy winter of 1641.

JAMES H. COYNE.

St. Thomas, March 16, 1892.





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